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MEXICO.

BY

MATIAS ROMERO.

Since the American Geographical Society of New York did me the honor of electing me one of its honorary members, I have felt that I owed it a debt which I could pay only by sending it a contribution about Mexico. The pressure of my official duties in Washington, on the one hand, and my inability to treat properly the many subjects connected with a description of Mexico, to which was added the difficulty of compressing them into a few pages, on the other, have delayed this work much longer than I desired or expected.

A club of this city requested me some time ago to deliver a lecture on Mexico, and, as I had not the time to prepare one, I consented to give an informal talk on the subject, which I did on January 16, 1888. Most of my talk was taken down by a stenographer, and it has been the basis of the present article, which I hope will at least serve to call attention to Mexico and awaken a desire for reading other and better articles and books on that country, written by far more competent men. I have added to those remarks considerably, and have borrowed from descriptions of others a portion of what appears under the headings of Geology, Orography and Fauna.

I think this work would not be complete if I omitted to include some of the most important statistical information concerning Mexico, and I therefore will insert it in this article.

LOCATION, BOUNDARIES AND AREA.

Mexico is situated between $14^{\circ} 24'$ and $32^{\circ} 32'$ north latitude, and between $86^{\circ} 53'$ and $117^{\circ} 7' 31''$ west longitude of the Meridian of Greenwich, embracing therefore $18^{\circ} 8'$ of latitude, and $30^{\circ} 14' 31''$ of longitude. It has an area of 767,226 square miles. It is bounded on the north by the United States of America, the boundary being defined by the treaties of February 2, 1848, and December 29, 1853, by which Mexico ceded to the United States over one-half of her former territory, which consisted of the States of Texas, Nevada, Utah and California and parts of Colorado, Wyoming and Kansas, and the Territories of New Mexico, Arizona

and a portion of the Oklahoma Territory, comprising an area of 568,103 square miles exclusive of Texas, and, including this State, whose independence was recognized by Mexico by the former treaty, of 930,590 square miles. The boundary with the United States begins at the mouth of the Rio Grande River on the Gulf of Mexico, and follows this river for 1,136 miles beyond El Paso, Texas, at the point where it strikes the parallel $31^{\circ} 47'$ north latitude, and thence south to the parallel $31^{\circ} 20'$ north latitude: from there west along this parallel till the 111th meridian of longitude west of Greenwich; thence in a straight line to a point on the Colorado River 20 English miles below the junction of the Gila; thence up the middle of said River Colorado to the intersection with the old line between Upper and Lower California, and thence to a point on the Pacific Ocean distant one marine league due south of the southernmost point of the Bay of San Diego; the total distance from El Paso to the Pacific being 674 miles. The boundary line with the United States runs from southeast to northwest, the mouth of the Rio Grande being in $25^{\circ} 57' 21''$ north latitude, while the boundary on the Pacific reaches $32^{\circ} 32' 1'' 34'''$. Mexico has, therefore, on the western, or Pacific side, $6^{\circ} 33' 40'' 34'''$ of latitude more than on the eastern or the Gulf of Mexico side. The whole extent of the boundary line between the two countries is 1,833 miles.

The boundary with Guatemala was fixed by the treaties of September 27th, 1882, and April 1st, 1895, and it runs from the Pacific coast, at the mouth of the River Suchiate, along that river and across the main range to the Tacana volcano, and the Buenavista and Ixbul heights, and thence eastwards along the parallel of $16^{\circ} 4'$ to the left bank of the Rio Usumacinta, whose course it then follows to within 15 miles south of the town of Tenosique in the State of Tabasco, Mexico. From that point the line runs eastward along a parallel till the meridian located one-third of the distance between the squares of Tenosique and Sacluc in Guatemala; from there north along said meridian till the parallel of $17^{\circ} 49'$ north latitude, and thence along said parallel, which falls on the Atlantic Ocean, about the southeast corner of Yucatan.

To the southeast of Yucatan follows the territory of Belize, occupied by a British Colony under a permit granted to them by the Spanish Government to cut wood, within the limits stated in the treaty concluded between the Kings of Great Britain and Spain on November 3, 1783, and amended on July 14, 1786, with undefined limits. The southern end of the Guatemalan line on the Pacific is in $14^{\circ} 24'$ north latitude, while the northern end, on the Caribbean

Sea, is in $17^{\circ} 49'$ north latitude, being a difference of $3^{\circ} 25'$ in favor of the latter. The calculated length of the southern boundary is 642 miles.

Mexico is bounded on the east by the long curve of the Gulf of Mexico and by the Caribbean Sea and is 1,727 miles long; on the west it is washed by the Pacific Ocean, its coast describing the arc of a still larger circle, for a length of 4,574 miles; but after passing the City of Mexico, going towards Guatemala, where the country makes a turn toward the east, the Gulf of Mexico forms the northern border and the Pacific Ocean the southern border.

Mexico has the shape of a cornucopia, with its narrowest end tapering to the southeast, its convex and concave sides facing the Pacific and the Atlantic, respectively, and its widest end towards the north, or the United States, and this has been considered allegorically as a sign that it will pour its wealth and products into this country. I look forward to the time, which I do not think far distant, when we shall be able to provide the United States with most of the tropical products, such as sugar, coffee, tobacco, etc., which they now import from several other countries.

The widest portion of Mexico is, therefore, its northern boundary with the United States. The general direction of the country is from southeast to northwest, and as it extends south the country converges until it reaches latitude 19° , about the latitude of the City of Mexico, when it makes a decided turn towards the east. The narrowest point is the Isthmus of Tehuantepec, about 100 miles from one ocean to the other, where Central America proper begins, and expands again toward Yucatan and Chiapas until it reaches the boundary with Guatemala.

The broken surface of Mexico formerly made travelling there very difficult, and for that reason the country was but little known, even by Mexicans themselves, as its configuration did not allow of the building of good roads, and to travel any considerable distance it was necessary to go by mule paths, without comfortable inns, and running great risks, owing to the disturbed condition of the country. It required, therefore, time, expense, endurance and an object, to travel widely there. I was always anxious to know as much as possible of the country, and I have made long trips solely for the purpose of studying certain regions, and I think that before the railway era, I was perhaps one of the Mexicans who knew most of the country, and could, therefore, most easily realize the difficulty of knowing it thoroughly. From this it can be readily understood how difficult it would be

for a foreigner, who does not know anything of the country and is ignorant of its language, to understand it by a few days' sojourn there. Yet many travellers who have been in Mexico only a few days write about it on their return just as if they knew it perfectly well, making necessarily many serious and sometimes laughable mistakes.

The natural beauties of Switzerland are well known; but to me that country can hardly be compared with Mexico, as everything in Mexico is on a grander scale. In the latitude in which Switzerland is situated the snow line is quite low, and, therefore, most of the peaks of the Swiss mountains, while not so high as the Mexican mountains, are covered with perpetual snow, which embellishes the country, and the melting in summer of the snow on its mountains supplies the beautiful lakes of that country with fresh water. Therefore only in the beauty of many snow peaks, beautiful fresh water lakes and good roads and fine hotels, has Switzerland the superiority over Mexico.

Although most of Mexico is located on the North American Continent proper, considering that the Isthmus of Panama divides North from South America, a large portion of it lies in Central America. Geographically speaking, Central America is the portion of North America embraced between the Isthmuses of Tehuantepec and Panama, and of this vast territory Mexico holds about one-third. In a paper published in the *BULLETIN OF THE AMERICAN GEOGRAPHICAL SOCIETY* of New York, of March 31, 1894, I dealt especially with this subject.

Yucatan has very little of the configuration of Mexico proper. It is a level country formed very likely by coral reefs and beds, and its ruins show it to have been the seat of a high civilization and an advanced people. Dr. Augustus Le Plongeon, a French savant, who has passed many years in Yucatan, studying its magnificent ruins, has written and published during the present year a book, entitled "*Queen Moo and the Egyptian Sphinx*," in which he shows that the Empire of the Mayas, which had its seat in Yucatan, was the cradle of civilization and that from there it went to India, Egypt and finally to Greece and Western Europe.

GEOLOGY.

The Geology of Mexico has been but imperfectly studied. In the higher ranges the prevailing formations are granites, which seem also to form the foundations of the plateaus, above which rise the traps, basalts, mineral-bearing porphyries, and more recent

lavas. Hence Lyell's theory that Mexico consisted originally of granitic ranges with intervening valleys subsequently filled up to the level of the plateaus by subterranean eruptions. Igneous rocks of every geologic epoch certainly form to a large extent the superstructure of the central plateau. But the Mexican table-land seems to consist mainly of metamorphic formations which have been partly upheaved, partly interpenetrated, and overlaid by igneous masses of all epochs, and which are chiefly represented by shales, greywacke, greenstones, silicious schists, and especially unfossiliferous limestones. All these formations are alike remarkable for the abundance and variety of their metalliferous ores, such as silver, silver glance, copper and gold. Gneiss and micaceous schists prevail in Oaxaca and on all the southern slopes facing both oceans. But the highest ranges are formed mainly of plutonic and volcanic rocks, such as granites, syenites, diorites, mineral-bearing trachytes, basalts, porphyries, obsidian, pearlstone, sulphur, pumice, lavas, tufa and other recent volcanic discharges. Obsidian (*itzli*) was the chief material formerly used by the natives in the manufacture of their cutting implements, as shown by the quarries of the Cerro de las Navajas (Knife Cliff) near Zimapan. Vast deposits of pumice and the purest sulphur are found at Huichapam and in many of the craters. But immeasurably the most valuable rocks are the argentiferous porphyries and schists of the central plateau and of Sinaloa, unless they are destined to be rivalled by the auriferous deposits of Sonora. Horizontal and stratified rocks, of extremely limited extent in the south, are largely developed in the northern states, and chalk becomes very prevalent towards the Rio Grande and Rio Gila valleys. To this chalk and to the sandstones are probably due the sandy plains which cover vast tracts in North Mexico, stretching thence far into New Mexico and Texas. Here the Bolson de Mapimi, a vast rocky wilderness inhabited until recently by wild tribes, occupies a space of perhaps 50,000 square miles in Coahuila and parts of the surrounding States.

None of the horizontal layers seem to be very rich in ores, which are mainly found in the metamorphic, palæozoic and hypogene rocks of Durango, Chihuahua and the south. Apart from Sinaloa and Sonora, which are now known to contain vast stores of the precious metals, nearly all the historical mines lie on the south central plateau at elevations of from 5,500 to 9,500 feet. A line drawn from the capital to Guanajuato, and thence northwards to the mining town of Guadalupe y Calvo of Chihuahua, and southwards to Oaxaca, thus cutting the main axis of upheaval at an angle of 45° ,

will intersect probably the richest known argentiferous region in the whole world.

Of other minerals the most important are copper, found in a pure state near the city of Guanajuato, and associated with gold in Chihuahua, Sonora, Guerrero, Jalisco, Michoacan and elsewhere; iron in immense masses in Michoacan and Jalisco, and in Durango, where the Cerro del Mercado is a solid mountain of magnetic iron ore; lead associated with silver, chiefly in Oaxaca; tin in Michoacan and Jalisco; sulphur in many craters; platinum, recently found in Tlaxcala and Hidalgo; cinnabar, also recently found in Morelos and Guerrero; "steppe salt" in the sandy districts of the north; "bitter salt" at Tepeyac; coal at various points; bismuth in many parts; marble, alabaster, gypsum, and rock-salt in great abundance throughout the plateaus and the sierras. In 1882 there were open altogether 569 mines:—541 silver, 14 gold, 4 copper, 4 lead, 3 salt, 2 coal and 1 mercury.

OROGRAPHY.

Mexico is traversed by two Cordilleras or high ranges of mountains running almost parallel to the coast, one along the Gulf of Mexico and the other along the Pacific Ocean. The former runs from ten to one hundred miles from the coast, leaving an imperceptibly inclined plane from the sea to the foot of the mountains; while the Cordillera on the Pacific side runs, on the whole, very near the coast, leaving a very narrow strip of land between the same and the sea, and from this run several branches in different directions. The most continuous range is the Sierra Madre of the Pacific, which may be traced, at a mean elevation of over 10,000 feet, from Oaxaca to Arizona. Parallel to this is the Lower Californian range (Sierra de la Giganta) 3,000 feet, which, however, falls abruptly eastwards, like the Atlantic escarpments. The California peninsula seems to have been detached from the mainland when the general upheaval took place which produced the vast chasm now flooded by the Gulf of California. Corresponding with the Sierra Madre on the west are the more interrupted eastern scarps of the central plateau, which sweep around the Gulf of Mexico as the Sierra Madres of Nuevo Leon and Tamaulipas at an elevation of about 6,000 feet. These are crossed by the routes from Tula to Tampico, the highest pass being 4,820 feet; from Saltillo to Monterey 3,400, and at several other places.

Of the central cross ridges the most important orographically and historically is the Cordillera de Anahuac, which surrounds the

Mexican (Tenochtitlan) and Puebla Valleys, and which is supposed to culminate with Popocatepetl (17,853 feet) and Ixtaccihuatl (15,705 feet). But these giants belong to a different or rather more recent system of igneous upheaval, running from sea to sea between $18^{\circ} 59'$ and $19^{\circ} 12'$ N. in almost a straight line east and west, consequently nearly at right angles to the main axis of the central plateau. The line is clearly marked by several extinct cones and by five active or quiescent volcanoes, of which the highest is Popocatepetl, lying south of the capital, nearly midway between the Pacific and the Atlantic. East of the central point of the system are Citlaltepetl, better known as the peak of Orizaba (17,176 feet), on the coast south of Vera Cruz, to which correspond on the west the recently upheaved Jorullo (4,000 feet) in Michoacan, Colima (12,800) near the coast in Jalisco, and the volcanic Revillagigedo group in the Pacific. South of this line and nearly parallel, are the Sierras of Guerrero, and southeast of the Tehuantepec Isthmus those of Oaxaca and Chiapas towards the Guatemala frontier. In the same direction run the Islands of Cuba and Hayti, which probably belong to the same Central American system.

In the course of centuries these high mountains have become disintegrated by the rains and other natural elements and a great many spaces between them filled up, forming a series of valleys and other spots quite delightful in climate and very rich in agricultural resources. This series of valleys, which we call the Central Plateau, runs from about 150 miles east of the City of Mexico, traversing all of Mexico in a northwesterly direction. So level is the plateau that even when there were no wagon roads in Mexico one could travel in a carriage from the City of Mexico to Santa Fé. Baron Humboldt and other geologists considered the Cordilleras of Mexico as a portion of the Andes of South America, which originate in Patagonia, extending over the whole of that continent; but researches were made specially by a corps of engineers, who surveyed Mexico during the French Intervention, and these seem to have arrived at a different conclusion, and consider that the Andes proper end in Panama, and that the Mexican Cordilleras are entirely independent from that lofty chain of mountains.

In contrast with the plains and at times barren districts of the Central Plateau, it is occasionally broken by depressions of the soil, known as barrancas, descending sometimes 1,000 feet and measuring several miles across, which are covered with a luxuriant vegetation of trees and shrubs, and watered by small streams running through the middle of the valley. Among the most remark-

able ones are the barranca de Beltran descending the western slope from Guadalajara to Colima, and the barranca de Mochitilte from Guadalajara to Tepic.

The following are the principal mountain peaks of Mexico, the first ten being volcanoes, with their heights according to the most recent measurements:

MOUNTAINS.	STATES.	ELEVATION IN FEET.
Popocatepetl.....	Mexico	17,540
Orizaba.....	Veracruz and Puebla.....	17,176
Toluca.....	Mexico	16,610
Ixtacihuatl.....	Mexico and Puebla.....	15,705
Colima.....	Colima	12,000
Zapotlan el Grande.....	Jalisco.....	9,293
San Martin or Tuxtla.....	Veracruz.....	9,708
Tancitaro.....	Michoacan	9,506
Jorullo.....	Michoacan .....	.....
Soconusco.....	Chiapas.....	7,436
Guarda.....	Mexico	16,748
Ajusco.....	Mexico.....	15,682
Zacualtipan.....	Mexico.....	14,858
Cofre de Perote.....	Veracruz.....	14,309
Zempoaltepec.....	Oajaca.....	10,543
La Brea	Guerrero.....	11,789
Pico de Quinceo.....	Michoacan	10,603
Veta Grande	Zacatecas	9,041

HYDROGRAPHY.

The Mexican coasts, washed by the Caribbean Sea and the Gulf of Mexico, are low, flat and sandy, except near the mouth of the Tabasco River, where at some distance from the coast appear the heights of San Gabriel, extending north-east and south-west for several miles; but the majestic mountains of Veracruz, specially the volcano of Orizaba, visible for many leagues to seaward, form a picturesque background which relieves the monotony of the shore region of that State. On the Pacific side the coasts, although generally low, are here and there roughened by spurs extending from the Cordillera to the ocean.

The principal gulfs are those of Mexico, California and Tehuantepec, the first of which ranks among the largest in the world.

We are not blessed with good harbors on the Gulf Coast. Veracruz is an open roadstead, and we are now spending large sums of money in trying to make it a good port. Our best harbors are on the Pacific Coast, as Acapulco, which is a large one, Manzanillo, a very fine, although a very small one, and La Paz, on the Gulf of California. By artificial means we expect to improve our harbors considerably.

The more noteworthy bays are those of Guaymas, Santa Barbara, Topolobampo and Navachiste, in the Gulf of California; Concepción, La Paz and Muerto, on the east coast of the same gulf; San Quintin, Magdalena and Amejás, in the Pacific Ocean on the coast of Lower California; San Blas and Valle de Banderas, on the coast of Tepic.

We have no lakes as large as those with which the United States is favored, and the Lake of Chapala, a beautiful spot where country houses are now being built, is the largest lacustrine basin in Mexican territory. The Valley of Mexico has seven lakes, one of fresh and six of salt water. The other lakes in Mexico are Catemaco, in the State of Veracruz; Cairel and Carpintero, in the State of Tamaulipas; Encantada, in Tabasco; Bacalar, in Yucatan; Alcuzaque, in Colima Cuitzeo; Tacascuaro and Patzcuario, in Michoacan; Yuriria, in Guanajuato; and Meztitlan, in Hidalgo.

Mexico has a great many islands, although not any of very great area, situated near the coast, the greater number of which are uninhabited, although some of them are very fertile, and could be the seat of a large population. Among the most important are: El Carmen, the largest in the Gulf of Mexico; San Juan de Ulua and Sacrificios, opposite the port of Veracruz; Mujeres, in the Caribbean Sea; Guadalupe, on the west coast of Lower California, and near the coast of Tepic the Tres Marias group; at some distance from the coast of Colima the Revillagigedo group, belonging to that State, and adjoining the coast of the State of Michoacan the Alcatraz Island.

As I have already stated, Mexico has a very broken surface, with high mountains, causing streams to run down a very inclined plane, forming torrents with rapid cascades, which contribute to embellish the natural features of the country. This, however, prevents us from having large navigable rivers, and furnishing a cheap way of transportation, which is one of the greatest advantages the United States has, and which so largely contributed in its early days to the development of the country, making transportation to long distances both easy and cheap. While the torrents descending from the mountains afford an immense water-power—which, in the course of time, can be used as motor for industrial purposes—they meet when they reach a valley and run smoothly there through a ravine until finally they reach the coast, and it is therefore only at a comparatively small distance from the coast that they can be made navigable.

Our principal rivers, measuring their positions from north to

south, are the Rio Grande—which from El Paso, Texas, to the sea, is the boundary line between the two countries and which used to be a large river; but, as it rises in Colorado and passes through New Mexico, and the inhabitants of both have taken for irrigation purposes most of the water that it carries, it becomes entirely dry during the dry season after the freshets, very much to the distress of the inhabitants of its borders from El Paso to Ojinaga, especially on the Mexican side, which has been inhabited for three hundred years, the people using the water for irrigation—on the other side there being no population—and now they find that their farms are entirely worthless for want of water. After passing Presidio del Norte, now called Ojinaga, the Rio Conchos and other tributaries of the Rio Grande River supply it with water, although not to the amount it had before the water was taken by Colorado and New Mexico. The Mescala, or Balsas River, rises in the Central Plateau near the Valley of Mexico, passes by the State of Puebla to the southwest, by Mixteca and Oaxaca, and finally empties into the Pacific at Zacatula. As indicated by its name it is, to a limited extent, navigable along its lower reaches; above the bar it is accessible to small craft, which, higher up, are arrested by rapids, whirlpools and a high cascade. The Pánuco River rises north of the Valley of Mexico. Under the names of Tula and Montezuma it describes a vast semi-circular bend towards the west across the Hidalgo uplands and collects the waters of the Huasteca of Vera Cruz and Tamaulipas, beyond which it is joined by the various streams flowing from Querétaro, and finally empties into the Gulf of Mexico at the Port of Tampico. The Tampico bar has been improved by jetties, and now steamers drawing 24 feet of water can enter easily, thus making that harbor the best on our Gulf coast. The Rio Lerma or Santiago, the Tololotlan of the Indians, is also a considerable stream. By the riverain populations it is, in fact, known as the Rio Grande, while the inhabitants of Michoacan call it also Cuitzeo, from the large lake situated in their province. It rises in the State of Mexico in the very centre of the Anahuac Plateau, and its farthest sources, issuing from underground galleries, descend from the Nevado de Toluca down to the twin lake of Lerma, the remains of an inland sea which formerly filled the Upper Toluca Valley north of the Nevado volcano. At its issue from the lake, or rather marshy lagoon, the Lerma stands at the great altitude of 8,600 feet, and during its winding northwesterly course across the plateau, the incline is very slight. In this upland region it is swollen by several affluents, some of which, like the

main stream itself, flow from lakes dotted over the tableland. After completing half of its course at La Barca, the Lerma is still over 5,600 feet above sea level. Here, some 280 miles from its source, it enters the large lake Chapala, near its eastern extremity; but about twelve miles below the entrance it again emerges through a fissure on the north side of the lake, and still continues to flow throughout its lower course in the same northwesterly direction.

The Grijalva and Usumacinta rivers, rising in the State of Chiapas, after being joined by many others, some of them coming from Guatemala, empty into the Gulf of Mexico by one of its mouths at the City of Frontera, in the State of Tabasco. The Papaloapam River rises in the State of Oaxaca, passes through the State of Vera Cruz and empties into the Gulf of Mexico at the town of Alvarado, a few miles south of Vera Cruz.

The rains increase considerably the amount of water in the rivers, but as their duration is not very long this soon subsides. When the streams rise near the sea, as is the case on the coast of Chiapas on the Pacific, they become so swollen immediately after the rains that it is impossible to ford them, and as there are no bridges, it is necessary to wait until early the next day when the freshet has subsided.

Springs are rare, and a great many of the rivers run in deep mountain beds, without receiving smaller tributaries, while the rapid evaporation on a light soil, covering porous rocks, leaves the surface dry and hot and unable to support any vegetation beyond the cactus and low grasses.

We are blessed with quite a number of mineral springs, although very few of them are used, most of them being at places not easily accessible, but in this regard I do not think we have any cause to envy any other country.

CLIMATE.

By looking at the map it will be perceived that Mexico, being intersected by the Tropic of Cancer and stretching across eighteen parallels of latitude, must, from its position alone, necessarily enjoy a great diversity of climate. But from its peculiar configuration this feature is affected far more by the altitude of the land than by its distance from the pole or the equator. This is especially true of the more fertile and populous section lying within the torrid zone, where three distinct climatic regions are distinguished, not according to their horizontal, but according to their vertical position. The warm climate has the heat of the torrid zone and

prevails on the sea coast in the sandy and marshy tracts fringing the Gulf of Mexico and the Pacific Ocean, in other low places below 3,000 feet above the level of the sea, and in some of the valleys higher than that, but protected entirely from the winds. But the night breezes refresh the temperature in the evening and make it bearable during the day, the heat never being so oppressive as it is in summer in the more northern latitudes. This region is also much refreshed in summer by the rains, which are abundant and fall regularly during that season. The heat of the sun increases considerably the evaporation from the sea, and when the evaporation reaches the cool atmosphere of the sky, it is naturally condensed into water and falls in this region. The rains begin generally in June, are considerably increased in July, and end in November, although this varies in different regions, the rains lasting longer in those near the sea than in the inland districts. They are so abundant that they form the main reliance of the agricultural industry, and there are few regions which use water for irrigation, depending entirely upon the rainfall; therefore, when by some atmospheric phenomena, the rains are late or very scarce, in a year we have a famine in Mexico, which can now be averted by importing cereals through our railroads, as was the case in 1893. The rains fall regularly and at fixed intervals, that is, about from one to three hours every day, and after the rain is over, the atmosphere is clear and pleasant, and in well drained places, the ground becomes dry, so that it causes no inconvenience to the inhabitants.

The rains have such a decided effect on the atmosphere that in most of the country the seasons are divided into the rainy and dry season, and very few realize what spring and fall mean. As our climate is so even, the trees do not lose their leaves at any given time, but one by one as they grow old and die; and as the leaves die they are replaced gradually and imperceptibly by new ones, so that the phenomenon familiar to northern latitudes, of trees losing all their leaves in the autumn and regaining them in the spring, is quite new to anybody going to a temperature that has both extremes.

The differences of climate depending upon the different degrees of altitude are so great in Mexico that the vegetable products of this vast country include almost all that are to be found between the equator and the Polar circle.

The mean temperature in the hot region varies from 77 to 82 degrees Fahrenheit, seldom falling below 60, but often rising to 100 degrees, and in the sultry districts of Vera Cruz and Acapulco to

105 degrees, although the heat is not oppressive as is the summer heat of the eastern portions of the United States. The vegetation is, of course, in consequence entirely tropical. In the southern region the climate on both seaboard may be described as humid, hot and rather unhealthy, and in places where stagnant water and marshes exist—which are often found on the coast on account of the sea water flowing in and remaining there—intermittent and remittent fevers prevail, and in some localities during the summer yellow fever and black vomit are endemic. These conditions could easily be remedied by proper drainage of the swamps and marshy districts.

The heat of the Gulf of Mexico when the atmosphere begins to cool in the Polar regions causes a depression in the barometer, and consequently very strong north winds, which sweep over the coast with terrible force, causing great havoc. They generally begin in September and last until the winter season sets in about December. As the country is narrow, the effect of the north wind is felt all over it and that is the prevailing wind. In the City of Mexico, for instance, notwithstanding its altitude and that it is protected by high mountains from the northern winds, the temperature falls when the northerns prevail on the Gulf coast and it becomes cloudy and drizzly, and the same effect is felt, more or less, in other portions of the country. As the country narrows towards the southeast, especially at Tehuantepec, the northern wind blows without any obstacle and its force and effects are felt all over it. The districts in the mountains bordering the Pacific are affected in the same way as the City of Mexico.

From 3,000 to 5,000 feet above the level of the sea is located our temperate zone, which succeeds the hot zone in a vertical position, and embraces all the higher terraces, and portions of the central plateaus themselves. The mean temperature is from 62 to 70 degrees Fahrenheit, varying not more than 4 to 5 degrees during the season, thus making one of the very finest climates on the face of the earth. In this privileged region both extremes of heat and cold are unknown and it has several cities—Jalapa and Huatusco in the State of Vera Cruz; Chilpancingo in Guerrero, Ameca in Jalisco, and many others too numerous to mention here. As these places are generally located on the slopes of mountains and not far removed from the ocean, the evaporations from the sea form clouds which are detained in their course by the high peaks and are precipitated into rain. In this region the semi-tropical productions are abundant, and with them are often combined the products of

tropical and cold regions. I have seen in my own native place, the City of Oaxaca, located in the temperate region, a farm where wheat and sugar cane were growing on the same piece of ground.

The cold region is located from 7,000 feet above the sea level upwards, and has a mean temperature of from 59 to 63 degrees Fahrenheit. Most of the grand central plateau is located in this region, except in such places as are in a great depression of ground and in deep ravines, where a warm temperature and tropical products are found. The rainfall is about five times less than in the temperate zone. This region, of course, produces all the growths of the cold latitudes, as wheat, oats, apples, etc., etc.

The portion of the country that is most thickly inhabited lies in the Central Plateau, and is quite high above the level of the sea, and so sheltered from the winds and storms by the mountains as to make the climate even, temperate and delightful. The impression prevails in the United States that Mexico, lying to the south of this country and running towards the equator, must be much warmer than this country; but this is not so. Often in warm places, like the lowlands on the coast, we do not have the extreme hot weather that is experienced in summer in the United States. The sea breezes refresh the atmosphere at night and cool it considerably, making, therefore, a very great contrast with the summer heat in this country. The medium climate of the Valley of Mexico, for instance, which is the one that has been best observed and understood, varies comparatively little between summer and winter, and the greatest variations are between day and night on the same day.

The climatic conditions of Mexico are undergoing great changes on account of the destruction of the forests. The country had formerly a great deal of rain and much humidity of atmosphere, being covered with thick forests, but in the absence of coal mines and with the difficulty of transportation to contend with, even supposing coal had been found in it, the population has had to depend entirely for their supply of fuel, upon charcoal, and this has in the course of time denuded the mountains, changing very materially the climatic conditions. But in the lowlands, being thinly inhabited, the case is different, and the country is still so thickly wooded that it is impossible to pass through it, unless an open path is made with a great deal of difficulty, by felling very high trees. In this region abound forests of mahogany, cedar, rosewood, etc. The destruction of the forests has increased considerably since the building of railroads, because wood has not only been used for railway ties, but also as fuel for the locomotives and for other industries

established in the country as a natural consequence of railways, thus considerably increasing the demand for fuel. We have already located several coal beds, as the Sabinas in Coahuila, some of which are being used to a considerable extent, and it is to be hoped that these will put an end to the destruction of our forests. The Mexican Government has, I think, been contemplating the idea of prohibiting the use of wood for the locomotives and railway ties. Experience has shown that in tropical countries iron ties last much longer and are, on the whole, cheaper than wooden ones, and our supply of coal will soon be ample enough to furnish all the fuel necessary for the railways and mining industries.

As a whole, the Mexican climate, if not one of the healthiest, is certainly one of the most delightful in the world. The zone of "temperate lands," oceanic slopes, enjoy an everlasting spring, being exposed neither to severe winter, nor to intolerable summer heats; in every glen flows a rippling stream; every human abode is embowered in leafy vegetation; and here the native plants are intermingled with those of Europe and Africa. Each traveller in his turn describes the valley in which he has tarried longest as "the loveliest in the world"; nowhere else do the snowy crests or smoking volcanic cones rise in more imposing grandeur above the surrounding sea of verdure, all carpeted with the brightest flowers. In these enchanting regions there is still room for millions and millions of human beings.

The following table shows the meteorological conditions of some Mexican stations, taken in the direction from north to south:

STATIONS.	LATITUDE.	HEIGHT FEET.	MEAN TEMPERATURE.	RAINFALL INCHES.
Monterey (1888).....	25° 40'	1,636	70° F.	137
Mazatlan (six years).....	23° 11'	150	76° F.	39
Zacatecas (1888).....	22° 47'	8,100	58° F.	19.
San Luis Potosi (2 years)...	22° 5'	6,230	62° F.	16
Leon (1888).....	21° 7'	5,920	65° F.	35
Guanajuato (1888).....	21° 1'	6,645	63° F.	33
Guadalajara (six years)....	20° 41'	5,180	72° F.	34
Mexico (12 years).....	19° 26'	7,400	60° F.	30
Colima (15 years).....	19° 12'	1,655	78° F.	42
Puebla (2 years).....	19°	7,110	60° F.	39
Oaxaca (1879).....	17° 3'	5,108	67° F.	38

It will be interesting to insert here a statement of the maximum and minimum temperatures of several cities of Mexico, located both at the sea level, like Merida and Mazatlan, and the higher

portions of the Central Plateau, like the City of Mexico and Pachuca, and at different altitudes above the sea level, like Jalapa, San Luis Potosi, Oaxaca, etc., which show how mild the climate of Mexico is.

CITY OF MEXICO.

Maximum temperature in the shade.....	84°9	May 5th
Minimum temperature in the shade.....	32°9	Jan. and Feb.
Maximum temperature in winter.....	72°	December
Minimum temperature in winter.....	32°9	Jan. and Feb.

PUEBLA. (STATE OF PUEBLA.)

Maximum temperature in the shade.....	83°8	April
Minimum temperature in the shade.....	32.9	January
Maximum temperature in winter.....	74.7	February
Minimum temperature in winter.....	32.9	January

OAXACA. (STATE OF OAXACA.)

Maximum temperature in the shade.....	93°7	May
Minimum temperature in the shade.....	32.4	December
Maximum temperature in winter.....	83.1	February
Minimum temperature in winter.....	39.2	Jan. and Dec.

JALAPA. (STATE OF VERACRUZ.)

Maximum temperature in the shade.....	89.6	April
Minimum temperature in the shade.....	33.8	February
Maximum temperature in winter.....	87.1	December
Minimum temperature in winter.....	33.8	February

QUERETARO. (STATE OF QUERETARO.)

Maximum temperature in the shade.....	90.1	April and June
Minimum temperature in the shade.....	32.9	January
Maximum temperature in winter.....	80.4	December
Minimum temperature in winter.....	32.9	January

GUANAJUATO. (STATE OF GUANAJUATO.)

Maximum temperature in the shade.....	91.9	April
Minimum temperature in the shade.....	36.0	January
Maximum temperature in winter.....	82.0	February
Minimum temperature in winter.....	36.0	January

LEON. (STATE OF GUANAJUATO.)

Maximum temperature in the shade.....	91.6	May and June
Minimum temperature in the shade.....	32.0	February
Maximum temperature in winter.....	77.0	February
Minimum temperature in winter.....	32.0	February

SAN LUIS POTOSI. (STATE OF SAN LUIS POTOSI.)

Maximum temperature in the shade.....	89.2	May
Minimum temperature in the shade.....	26.1	February
Maximum temperature in winter.....	73.4	December
Minimum temperature in winter.....	26.1	February

MORELIA. (STATE OF MICHOACAN.)

Maximum temperature in the shade.....	87.8	April
Minimum temperature in the shade.....	37.4	January
Maximum temperature in winter.....	79.2	February
Minimum temperature in winter.....	37.4	January

PACHUCA. (STATE OF HIDALGO.)

Maximum temperature in the shade.....	80.2	May
Minimum temperature in the shade.....	32.4	December
Maximum temperature in winter.....	77.0	December
Minimum temperature in winter.....	32.4	December

REAL DEL MONTE. (STATE OF HIDALGO.)

Maximum temperature in the shade.....	80.2	March
Minimum temperature in the shade.....	31.6	January
Maximum temperature in winter.....	74.1	January
Minimum temperature in winter.....	31.6	January

SALTILLO. (STATE OF COAHUILA.)

Maximum temperature in the shade.....	89.6	April
Minimum temperature in the shade.....	12.2	February
Maximum temperature in winter.....	75.7	January
Minimum temperature in winter.....	12.2	February

MÉRIDA. (STATE OF YUCATAN.)

Maximum temperature in the shade.....	103.6	April and June
Minimum temperature in the shade.....	47.8	February
Maximum temperature in winter.....	92.8	January
Minimum temperature in winter.....	47.8	February

MAZATLAN. (STATE OF SINALOA.)

Maximum temperature in the shade.....	91.0	September
Minimum temperature in the shade.....	56.8	February
Maximum temperature in winter.....	84.0	December
Minimum temperature in winter.....	56.8	February

MEXICO AS A SANITARIUM.

The mild nature and evenness of most of our climate is very favorable to certain diseases—especially pulmonary ones—and when that advantage becomes well known the Central Plateau of Mexico will be the best sanitarium for lung diseases, and especially for tuberculosis. Other lung diseases requiring a warmer climate could find desirable places in certain valleys in the temperate zone like Cuantla, Cuernavaca, Tasco, Iguala and others. These very conditions, namely, the even and mild climate both in summer and winter, will make it a country visited by thousands of pleasure or health seekers who wish to escape the extremes of the northern climate. Even now we would have a much larger travel from this country, if we had convenient accommodations for travellers, but

our hotels are not yet as comfortable as those in the United States.

FLORA.

This short and imperfect description of the climate of Mexico will show that we raise all the products of the three different zones into which the earth is divided, and the most peculiar thing is that we can raise them almost on the same ground. By going only a few miles, for instance travelling on horseback four or five hours, from a low to a high place, we change from the torrid to the temperate zone, and therefore we can have the products of both with comparatively little trouble, and by going four or five hours higher we change from the temperate to the frigid zone, and the advantage of this position can only be realized by those who have actually seen and done it.

Mexico is a favored country for flowers. They grow wild in a great many places and they can be raised at a very low figure, as there is no need of hot-houses or any other expensive appliance to cultivate them. The Indians in the small towns around the City of Mexico make a business of raising flowers, and they sell handsome bouquets, as artistically made as any in this country, for a mere trifle. A bouquet which, for instance, in New York would cost \$5 in winter, could be had in the City of Mexico all the year around for 25 cents, and I look forward to the time when flowers will be exported in large amounts from Mexico to the United States.

The magnificent arboreal vegetation embraces 114 different species of building timber and cabinet woods, including oaks, pines, firs, cedars, mahogany, rosewood and so forth; 12 species of dye-woods; 8 of gum trees: the cacao and India rubber, copal, liquidambar, camphor, turpentine pine, mezquite (yielding a substance similar to gum-arabic), dragon tree, and the almácigo or callitris quadrivalvis, from which sandarac is extracted. Among the oil-bearing trees and plants, of which there are 17 varieties, are the olive, cocoa palm, almond, sesame, flax, the tree yielding the Balsam of Peru, and so forth.

There are 59 classified species of medicinal plants, and many more are mentioned by botanists as still unclassified by science.

Of the many delightful fruits which grow in the tropical regions, only a few—the pineapple, the banana and the cocoanut—are used in this country, the orange being more of a semi-tropical fruit. The others require, as all fruits do, a cultivated taste, and therefore if imported here would not find a market. Even those which

do come here lose a great deal of their flavor from the fact that they are cut green so as to prevent their decay during transportation, and, of course, they do not taste as well as they do in the place where they grow. Of the banana, for instance, we have about twenty varieties, and some of them, the richest in my opinion, grow about twelve to fifteen inches in length and from two to three inches in diameter.

The advantage of tropical fruits growing in their proper zone and climate is immense, as the expense of planting and cultivating them outside of their proper limits is very great and there is always danger of their destruction. A recent cyclone, which lowered considerably the temperature in Florida, destroyed in one day, I understand, about 12,000,000 orange trees, thus causing the ruin of thousands of men engaged in that large industry, while the orange region in Mexico is entirely free from frosts and consequently from such dangers.

Among the tropical products of superior character that we raise in the hot zone I should mention tobacco, which in General Grant's estimation was superior to the Havana article. The natural conditions of soil and temperature are the same both in Cuba and Mexico, but we had not the superior experience of the Cubans in curing the leaf until the first insurrection broke out in Cuba, in 1868, when a great many Cubans went to Mexico to plant tobacco. As the land has been cultivated in Cuba with tobacco for nearly four hundred years, and as tobacco is a very exhausting crop, it has become indispensable to manure the land with guano; while in Mexico we have virgin land, and tobacco being a comparatively new industry, no guano needs to be used. General Grant, whom I considered a competent judge, detected the taste of guano in the Havana cigars, from which ours are free, and he therefore preferred to smoke ours.

In Cuba the exhausted soil cannot produce all the leaves that are required for the world's supply of Havana cigars, and the want can only be filled through the use of Mexican leaf tobacco. The Marquis de Cabañas sent to Sumatra a quantity of seed when it became obvious that the soil of the tobacco region of Cuba was fast being worn out. He sent seed also to Java and to the United States, but it was found that it was impossible to raise tobacco of Havana quality anywhere but in Mexico. That raised in Java from Havana seed was very coarse and rank, replete with nicotine and meconic acid, and devoid of those delicate essential oils that give the Havana and Mexican tobacco such an aroma,

The whole Central Plateau abounds in many species of cactus, which are used for several purposes. In the eastern portion of the Plateau, that is, from the City of Mexico towards Vera Cruz, in the region called the Plain of Apan, the cactus yields a large amount of a white juice, similar in appearance to milk, which when fermented is used as a tonic, and is an intoxicating beverage. The amount of alcohol it contains is small—about seven per cent., I believe—but imbibed in large quantities it is quite intoxicating. The use of this beverage, called pulque, has become very extensive in Mexico, and it must have very fine qualities both as a tonic and a nutritive, as many live on nothing but corn and pulque. In the mining districts, where a great deal of nervous force is expended, working in a high temperature and under very unhealthy atmospheric conditions, this drink is almost indispensable, and I imagine when a way is discovered to keep it for some time, and its medicinal qualities become better known, it will be exported in considerable quantities and used by foreign countries. Out of the cactus of other districts a drink is made called mescal, which has some remarkable therapeutic qualities, the most celebrated being made in a district of the State of Jalisco called Tequila, from which it takes its name; and in the very dry and stony regions of Yucatan another species of cactus grows, which seems to derive its food wholly from the atmosphere, yielding a very good fibre, much like manilla, which we now export in large quantities, particularly to New York. All the cacti are a first-class fibre as raw material, either for paper or cordage—some of it being rather coarse, like the henequen from Yucatan, and more of it almost as fine and glossy as silk, like pita.

FAUNA.

The present Mexican fauna belongs, like its flora, to the North American zone, so far as regards the plateau regions, and to the Antilles in respect to the coast lands round the Gulf, while that of the Pacific seaboard is intermediate between the Californian and South American. In the general aspect of its terrestrial animals, Mexico is connected more with the United States, whereas in its marine forms, the reverse movement has taken place. Thus the prevailing species in the Gulf of Mexico as far as Tamaulipas and Texas, and the Pacific Coast northwards to Sonora and Lower California, have migrated from South America. The species in the two oceanic basins differ almost completely; and despite the proximity of the Pacific and Atlantic shores, their shells are quite distinct.

The fauna includes three species of large felidæ, the puma or American lion, jaguar, and ocelot; among the smaller is the wild-cat. Wolves are common in the northern states, and also the coyotl or coyote; besides which there are bears, wild boars and bison. A species of sloth is found in the southern forests, with five varieties of monkeys. Of the other wild animals the principal are hares, rabbits, squirrels, two or three kinds of deer, beavers, moles, martens, and otters.

All the domestic animals introduced by the early Spanish settlers have multiplied prodigiously. The horses, though small, retain the spirit and graceful form of the Andalusian or Arabian stock, from which they mainly sprang.

The waters of the estuaries and coast streams teem with fishes, all the numerous varieties of which differ on the two oceanic slopes, but still present a certain analogy in their general distribution. Turtles are taken in considerable numbers on the coast, and the "carey" or turtle-shell of Yucatan and Guerrero is the object of a trade valued at \$20,000 yearly.

The ophidians are represented by a few boas in the southern forests, and several species of snakes, some extremely venomous, as the rattle and coral snakes. The largest lizard is the iguana, whose flesh is by some of the natives used as food. Noxious insects infest the hot regions in myriads; alacranes or scorpions, in two different varieties, are everywhere feared, and many children are every year killed by their sting in the city of Durango. Scolopendras, gigantic spiders, tarantulas and mosquitoes abound.

Bees are numerous and their wax is an article of export, and the silk-worm, though comparatively neglected, yields an annual profit of \$40,000. The birds of prey are eagles, hawks, and zopilotes or turkey buzzards, the scavengers of the coast towns, with three or four species of owls. Domestic fowl are extremely abundant. The parrots, humming-birds, trogons, and so forth, vie in richness of plumage with those of Brazil, and the Mexican songsters, the prince of which is the zenzontle or mocking-bird, are unequalled by those of any other country.

Of all the Mexican fauna, two only have been domesticated: the huahulotl (*Meleagris Mexicana*), which is a species of duck, and the turkey, introduced into Europe by the Spaniards from the West Indies, hence by the French called "coq d'Inde." The techichi, an edible dumb dog, was soon exterminated when taxed by the Spanish authorities. The other farmyard animals have all been introduced into Mexico by the conquerors.

In the Gulf of California, and especially near Paz, and the neighboring archipelagoes, extensive beds of pearl oysters are fished. Some other islands in the same gulf are frequented by myriads of various species of aquatic birds, and have already yielded many hundred cargoes of guano.

It is noteworthy that the Pacific Islands, lying at some distance from the coast, have all a fauna different from that of the mainland. Thus the little Tres Marias group, about six hundred miles off the coast of Jalisco, has a special species of humming-bird. The Revilla-Gigedo Archipelago also forms a separate zoölogical zone, and the Island of Guadalupe, one hundred and fifty miles distant from Lower California, has eleven species of land birds, every one of which differs from the corresponding species on the adjacent continent.

ETHNOLOGY.

Mexico is inhabited by descendants of the conquerors of Mexico and other European races, by native Indians found there during the Spanish conquest, and by a mixture of the two. There are so few inhabitants of African descent that it is hardly worth while to speak of them. The proportion of this population is about as follows: of European descent 19 per cent.; Native Indians, 43 per cent.; mixed races, 38 per cent.

The native Indians found by the Spaniards belong to several nations and tribes, having different features and entirely distinct languages. The principal of these tribes are the following, some of which are now extinct:

Otomi,	Apache,	Tarahumara,
Chichimec,	Irritilas,	Tepehuan,
Huastec,	Tamaulipecs,	Sabaibos,
Totonac,	Zacotec,	Acaxee,
Mixtec,	Huastec,	Xixime,
Zapotec,	Zoqué,	Concho,
Mahuas,	Opata,	Manosprietas,
Toltec,	Guaicuri,	Comanche,
Olmecs,	Yaqui,	Cuachichils,
Xicalancs,	Mayo,	Tarascos,
Tula,	Seri,	Mixé.

These tribes have been classified in the following families:

Mexicana Family;	Mixteco-Zapoteca Family;
Sonorense Opata-Pima Family;	Matlalzinga ó Pirinda Family;
Guaicura y Cochimi Laimon Family;	Maya-Quiche Family;

Seri Family;
Tarasco Family;
Zoque-Mixe Family;
Totonaca Family;

Chontal Family;
Huave Family;
Apache Family;
Othomí Family.

There is a great deal of similarity between the Mexican Indians and the Malay Asiatic races—especially the Japanese branch, which gives foundation to the idea that the aborigines of Mexico originally came from Asia or *vice versa*. Their very black hair and eyes, their brown or yellow color, their small stature and the slight obliquity of their eyes, are common features to the Mexican Indians and the Japanese. When I first came to Washington, at the end of 1859, not having been out of Mexico before, I had very vivid recollections of the Mexican Indians, with whom I had been associated considerably; and shortly afterwards the first Japanese Embassy came to this country and was received in a very solemn manner by Mr. Buchanan, then President of the United States. The Embassy consisted of about forty persons altogether, between ministers, secretaries, interpreters, servants, etc., and they were dressed in their national gala costumes, not having yet adopted the European one. The Diplomatic Corps having been invited to the reception, I attended as a member of the same, and I was very much struck with the great similarity which I found between the Japanese members of the Embassy and the Mexican Indians, whom I had just left. It seemed to me that had I collected at random forty Mexican Indians and dressed them in the same gorgeous costumes that the Japanese wore, nobody would have detected the difference.

Some of the Indian languages seem to me to resemble strongly the Oriental ones, though of course in a very rough manner, as I do not know any of these languages, having heard only the Chinese, Japanese and Korean; but I am sure that if any educated and intelligent Chinese should go to Mexico and spend some time among the Indians, he would find traces in the language which would contribute greatly to clear up this problem. Mr. Tateno, a former Japanese Minister, who visited Mexico, found during his short stay in that country several words used in Japan.

The Indians of the different tribes do not generally mix with one another, but intermarry among themselves, and this fact contributes largely to their physical decay, and it makes very difficult, at least for some time to come, the complete assimilation of all the Mexican population.

LANGUAGES.

About 150 different Indian languages are known to have been spoken by the Mexican Indians. The Spanish monks who went to the country with the conquerors and immediately afterwards compiled grammars and even dictionaries of some of these languages; but the Indians falling into a semi-barbarous state after the conquest, having lost their civilization and literature, their languages have either disappeared completely or become very primitive, and it has been ascertained that some of them have become entirely extinct.

The Spanish is, of course, the language of the country and most of the Indians speak it, although very imperfectly and incorrectly; a small portion of them only speaking no language but their own.

The chief languages spoken in Mexico proper, excluding Chiapas and Yucatan, are as follows:

Nahuatl or Mexican (Aztec) with Acaxee, Sabaibo, Xixime, Cochimi, Concho and other members of the same family.

Seri, Upanguaima and Guaima.

Papago, Opata, Yaqui, Mayo, Tarahumara, Tepehuan, Cora, etc.

Apache or Yavipai, Navajo, Mescalero, Llanero, Lipan, etc.

Otomi or Hia-hiu, Pame, Mazahua, etc.

Huastec, Totonac.

Tarascan, Matlaltzincan.

Mixtec, Zapotec, Mixé, Zoqué, Chinantec.

POPULATION.

The upper lands being the healthiest, most of the population in Mexico is settled on the Central Plateau; and a comparatively small portion of it lives in the Temperate Zone, while the Torrid Zone is very thinly populated. I imagine at a rough calculation, that about 75 per cent. of the population make their abode in the cold zone, from 15 to 18 in the temperate zone and from 5 to 7 per cent. in the torrid zone.

The population in Mexico appears from our last official census, taken in 1895, to be 12,570,195; but from my personal knowledge of the country I feel perfectly sure that it is not less than 15,000,000. It is very difficult to take a correct census in Mexico, because there is not the proper machinery in operation working for that purpose, and especially because a great many districts are inhabited by Indians, who are very much afraid that if they

inscribe themselves in the census they will be taxed or drafted into the military service, and they avoid for that reason their inscription.

A great many of our inhabitants live in such remote districts that they are practically out of communication with other portions of the country, and in fact are almost isolated; and this causes still another difficulty in taking a correct census. These people generally raise everything they need for their living and for their clothing also. They raise their own food and domestic animals, and wear either cotton or woollen clothes, which the women manufacture. Some are entirely isolated. The configuration of the country, making transportation very expensive, has caused this isolation, and this explains why some agricultural products, which are very cheap in other countries, are very dear in certain districts of Mexico, as the prices can there be easily controlled, there being no possibility of competition. While sugar, for instance, cost 25 cents per pound in some districts, it could be had in others for one cent. This fact shows also that a year of good crops was often a real misfortune to these districts.

The official census to which I have referred gives the following results:

AREA AND POPULATION OF THE UNITED MEXICAN STATES.

	STATES.	AREA IN SQUARE MILES.	POPULATION.	CAPITAL.	POPULATION.
Northern States bordering on the U. S.	Tamaulipas	32,585	204,206	Ciudad Victoria	14,575
	Nuevo Leon	24,324	309,607	Monterey	56,855
	Coahuila	62,376	235,638	Saltillo	19,654
	Chihuahua	87,820	266,831	Chihuahua	18,521
	Sonora	76,922	191,281	Hermosillo	8,376
Southern States bordering on Guatemala.	Yucatan	35,214	297,507	Mérida	36,720
	Campeche	18,091	90,458	Campeche	16,631
	Tabasco	10,075	134,794	S. Juan Bautista	27,036
	Chiapas	27,230	313,678	Tuxtla Gutierrez	7,882
At- lantic.	Vera Cruz	29,210	855,975	Jalapa	18,173
Pacific.	Oaxaca	35,392	882,529	Oaxaca	32,641
	Guerrero	25,003	417,621	Chilpancingo	6,204
	Michoacan	22,881	889,795	Morelia	32,287
	Colima	2,273	55,677	Colima	19,305
	Jalisco	31,855	1,107,863	Guadalajara	83,870
	Sinaloa	33,681	256,414	Culiacan	14,205
	Over	554,932	6,509,874		

		STATES.	AREA IN SQUARE MILES.	POPULATION.	CAPITAL.	POPULATION.
			554,932	6,509,874		
Central.	{	Aguas Calientes...	2,951	103,645	Aguas Calientes.....	31,619
		Durango.....	38,020	294,366	Durango.....	42,165
		Guanajuato.....	11,374	1,047,238	Guanajuato.....	39,337
		Hidalgo.....	8,920	548,039	Pachuca.....	52,189
		Morelos.....	2,774	159,800	Cuernavaca....	8,554
		Mexico.....	9,250	838,737	Toluca.....	23,648
		Puebla.....	12,207	979,723	Puebla.....	91,917
		Querétaro.....	3,558	227,233	Querétaro.....	32,790
		Tlaxcala.....	1,595	166,803	Tlaxcala.....	2,874
		San Luis Potosí...	25,323	570,814	San Luis Potosí.....	69,676
Terri- tories.	{	Zacatecas.....	24,764	452,720	Zacatecas.....	40,026
		Tepic.....	11,279	144,308	Tepic.....	16,226
		Lower California..	58,345	42,287	La Paz and.....	4,737
					Ensenada de Todos Santos	1,259
		Federal District...	463	484,608	City of Mexico.....	339,935
		Islands.....	1,471			
		Totals.....	767,226	12,570,195		

The States of Tamaulipas, Tabasco, Campeche and Yucatan border on the Gulf of Mexico, the latter being washed on one side by the Caribbean Sea, and the States of Sonora and Chiapas and the Territory of Lower California border on the Pacific.

It has been matter of wonder to me why the population of Mexico has not increased as rapidly as that of other countries. A large portion of it is composed of Indians, who live a very abstemious and plain life, marry while very young and generally have a family of several children; but they are, of course, subject to epidemics. While the mortality is large among the children, for want of proper care and nutrition, the race on the whole is sturdy and is hardly subject to disease. The losses caused by our civil wars could not at all explain the slow increase of our population, and the only way in which I can account for it is that they are not so well prepared as are the people of the United States and other more civilized countries to bear the discomforts of life and of climate, and that therefore they cannot bring up all the children born in the family, among whom there is annually great mortality.

RELIGION.

All Mexicans are born in the Catholic Church. Some of them, like the Indians, do not know much about religion and keep their old idolatry, having changed only their idols, that is, replaced their old deities with the images of the Saints of the Catholic Church. The Spaniards were very active in making the natives adopt the

Catholic religion, and although they succeeded wonderfully, it was a task very difficult to fully accomplish in the three centuries of the Spanish domination in Mexico. American Protestant missionaries have tried to make some converts in Mexico, but they have succeeded very poorly. They have established chapels which, in size and architecture, cannot be compared with the smallest Catholic Church. The number of Catholic churches and chapels in the country is 8,763, while the number of places of Protestant worship is only 63.

In February, 1888, an Evangelical Assembly, representing the various Protestant denominations and Evangelical Societies conducting missionary operations in the Republic of Mexico, was held in the City of Mexico. They represented that notwithstanding the difficulties of language, climate and other things they had to contend with, they found that they had over 600 congregations; 192 foreign and 585 native workers; over 7,000 in the day schools and about 10,000 in the Sunday schools; 18,000 communicants, and a Protestant community of over 60,000 souls. Ten small publishing houses are turning out millions of pages each year, and their church property is valued at nearly a million and a quarter dollars (silver).

EDUCATION.

Notwithstanding the efforts made to promote public education, the total number of public schools established in the country and maintained at the public expense is 8,675, attended by 435,953 pupils of both sexes, and kept at a public expense of \$5,455,549.60 yearly. The number of schools in the country for professional technical education is 136, attended by 16,809 pupils of both sexes. The schools supported by corporations or persons, including parochial schools, number 3,129, with 78,291 pupils of both sexes.

The Spanish Government did not care to educate the Indians, fearing that, once educated, they might desire to sever their political connection with the mother country, and the Mexican Government has been too much disturbed since its independence to promote their education earnestly. I consider that one of the first duties of Mexico is to educate the large number of Indians which we have, and when that is accomplished the whole condition of the country will change, as it will be able in a few years to increase by several millions its productive and consuming population.

In May of this year an act was passed by the Mexican Congress making primary education obligatory on all the inhabitants of the Federal District and Territories, and placing public education under the control of the Federal Government.

The total number of newspapers published in the country is 258, showing that the press has not attained there the great development that it has in this country.

THE VALLEY AND CITY OF MEXICO.

The Valley of Mexico is one of the finest spots in the world. Surrounded by high mountains—almost at the foot of the two highest in the country, Popocatepetl and Ixtaccihuatl—with a very rare and clear atmosphere and a beautiful blue sky, especially after a rain, it is really a centre of magnificent scenery. The rareness of the atmosphere makes distant objects appear to be very near, and when looking from the City of Mexico at the mountains which surround the Valley, one imagines that they are at the end of the City, while some of them are at a distance of forty miles. The view of the Valley from Chapultepec Hill, which is about 150 feet high and distant about three miles from the City, towards its western extremity, where our military school now is and where the President has made his summer residence, is one of the most beautiful with which this earth is endowed. I have seen the Bosphorus, Constantinople, the Bay of Naples and other spots in the world which are supposed to be most remarkable for their natural beauty, but I think the view of the Valley of Mexico from Chapultepec can be advantageously compared with them, if it does not excel them all.

Seven lakes are within the limits of the Valley, and as they have no natural outlet the City of Mexico has been deprived for some time of a proper drainage and its health has been affected very materially thereby. But the colossal undertaking of making an artificial outlet is now practically finished. In an article which I published in the *Engineering Magazine* in January, 1895, I dwelt especially on the work done during four centuries to accomplish that great end.

The City of Mexico, located in the western end of the Valley, at an altitude of 7,472 feet above the sea level, in $19^{\circ} 26'$ north latitude and $99^{\circ} 07' 53''.4$ Longitude West of Greenwich, covering about twenty square miles, is one of the most ancient cities of this Continent, and during the Spanish rule it was the largest and most important city of Spanish Colonial America. It is a city of 340,000 inhabitants, with fine buildings, the magnificence of which can be understood when it is considered that the Cathedral took nearly one hundred years to build, and that there were sometimes 10,000 men working at it. It is 426 feet long by 203 feet wide, its towers rising to the height of 218 feet.

It is situated on one side of the Central Square (plaza) of the City of Mexico and replaces the church erected by Cortes, on the spot where stood the "teocalli," or temple of the war god, ever reeking with the blood of human victims.

The City of Mexico is not only the capital of the country, but the real head of the Republic; and the aim of all other Mexican cities is to follow in the footsteps and imitate as much as possible the City of Mexico, which to them is a *beau idéal* and a real paradise.

The mean temperature of the City of Mexico in the shade is $60^{\circ} 26'$ Fahrenheit, the maximum being $84^{\circ} 92'$ and the minimum $32^{\circ} 90'$. The mean temperature in the open air is $60^{\circ} 80'$, the maximum being $98^{\circ} 60'$ and the minimum $22^{\circ} 64'$. The total amount of rainfall in 1895 was 19.694 inches; the greatest rainfall in twenty-four hours was 1.260 inches. The prevailing wind is the North; the velocity of the wind per hour is 2.23 miles.

The prevailing wind in the Valley of Mexico is northwest and north-northwest, which blew 250 times during the year 1883; while the southern winds, which are very dry, are rare, as they only blew 51 times in that year; but at the same time they have greater velocity than the others, and the greatest relative velocity of the winds is 3.0. The west and northwest winds are very damp.

MINING.

Mexico is, perhaps, the richest mining country in the world, and the production of silver—notwithstanding the imperfect methods and other drawbacks with which it has contended—represents over one-third of the product of the world, according to recent statistics. Almost all the mountains of Mexico are of a metalliferous character, but those which seem richest in mining deposits are the western Cordillera, extending from the State of Oaxaca to Sonora, a distance of about 1,600 miles from northwest to southeast.

The central group of mines in the three mineral districts of Guanajuato, Zacatecas and Catorce, in the State of San Luis Potosí, which have yielded more than half of all the silver hitherto found in Mexico, lies between 21° and $24^{\circ} 30'$ N., within an area of about 13,000 square miles. Here the Veta Madre lode of Guanajuato alone produced \$252,000,000 between 1556 and 1803. Gold occurs chiefly, not on the plateau in association with silver, but on the slopes facing the Pacific, and apparently in greatest abundance in Sonora, near the auriferous region of Lower California. The production would have been larger if an improved process of reducing the metals had been used, but during the whole colonial period and

up to the present time, we have used the patio system, which consists in grinding the ore, stirring until it is reduced to a fine dust and mixing it then with salt and copper amalgam; after the paste dries somewhat, salt is added in proportion to the amount of silver supposed to be in the ore; the material is then mixed with shovels and trodden by mules, and, after a day or two, another mixture of copper, vitriol and salt is added; after that it is mixed and trodden again; then quicksilver is finally added, and then more mixing and treading. This process is repeated from five to fifteen times until the silver and quicksilver unite to form an amalgam, which is gathered into bags, and that requires about forty days. Most of the quicksilver is squeezed out and the rest is evaporated and run off into tubs. This method saves fifty or sixty per cent. of rich ore. This process, besides being very long, is rather imperfect, as it leaves some silver in the ore, and only rich ores could be treated by it, but it was on the whole the easiest and cheapest. Some of these mines were worked until finally they became so deep that, with the methods then used, as buckets were employed instead of pumps, and steam had not been applied as power, it was impossible to drain them. Naturally, in a deep mine the water flows in from springs, and the deeper a mine becomes the more water it has. These mines were worked until it was seen that it was not possible to drain them, and then they were abandoned, even though they were rich in metals. During our war of independence almost all the mines were abandoned for want of guarantee to life and property, and the mining industry, therefore, declined considerably; but recently the old mines have been worked again and the production of silver has increased very considerably.

We had thirteen mints in the country to coin the silver extracted from our mines, which, in the precarious condition of the Mexican treasury, were sometimes rented to private parties who paid a sum large at that time, although it was a trifle in comparison with their profits, as they collected a duty of nearly $4\frac{1}{2}$ per cent. upon the amount of bullion coined, and the laws required that only coined silver could be exported. But now that silver can be transported easily from the mine to the mint, since a railway system has been built, the mints have been reduced to four—one in the City of Mexico, which is the principal one; one in Guanajuato, one in Zacatecas and one in Culiacan, the capital of Sinaloa. Some years ago, and when the Mexican mines only yielded about \$20,000,000 a year, I predicted that their yield would reach \$100,000,000, and that prediction is apparently soon to be verified, as the present product exceeds \$60,000,000.

When Li Hung Chang, the Chinese Viceroy, was in Washington, in August of this year, he inquired of me about the production of the Mexican mines, and I, trying to be conservative, informed him that they produced about \$50,000,000 a year. He then inquired how long they would continue yielding that amount. I answered that it was uncertain, but that, judging from present appearances, it could safely be said that it might be for one hundred years. This seemed incredible to him, and he said that as I had been so long absent from Mexico—for he had previously asked me how long I had been in this country—I could not know the real wealth and abundance of our mines, and he was very positive that I had made a mistake. He assured me that the silver mines in China yielded occasionally something, but soon were exhausted and it was impossible to get any silver out of them, and judging the Mexican silver mines from those he had seen at home, he was, of course, incredulous as to their yield.

Our production of gold has so far been comparatively small, because the mining and reduction of gold is more difficult and expensive than the same operations in silver, and our gold production has really been the amount of gold which has been found in our silver. For many years, when the amount was small, it was not separated, and for that reason old Mexican dollars have in China greater value than newly-coined ones; but recent improvements have made it easy and cheap to make the separation of the two metals. Now that gold has risen so much in value, its mining is beginning to be developed in Mexico on a comparatively large scale, and I have no doubt that before long, Mexico will be one of the largest gold producers of the world.

The total coinage of gold and silver in Mexico, according to official statistics of the Mexican Government, is the following:

	GOLD.	SILVER.
Colonial Period from 1537 to 1821..	\$68,778,411	\$2,082,260,657
Period of Independence to June 30, 1896	56,597,274	1,318,697,753
	\$125,375,685	\$3,400,958,410

According to the data embraced in the report of the Director of the Mint (page 314) on the production of precious metals in the United States during the calendar year 1894, the total coinage of

the world from 1493 to 1894 is \$10,129,129,000, the Mexican coinage being over one-third of the whole.

The above statistical information embraces only the silver coined, and it does not take into consideration the silver used in the arts, which was of a considerable amount, as almost every well-to-do Mexican had forks, spoons, plates and other articles of table-ware and household articles of solid silver. It does not embrace either such silver as was smuggled in bullion, which, considering the large extent of the Mexican sea coast, its scanty population and the demoralization of trade during our civil wars, represents a very large amount. It can, therefore, be safely stated that the production of silver in Mexico, not coined, represents at least from one-third to one-fourth of the amount coined.

Therefore, the production of silver by Mexico may be safely estimated at from \$4,000,000,000 to \$5,000,000,000, which is nearly one-half of the whole product of the world.

It may be interesting to state the amount of silver exported and coined in Mexican mints from 1874 to 1896, which is the following:

	EXPORTED.	COINED.
1874-75.....	\$16,038,215	\$19,386,958
1875-76.....	....	19,454,054
1876-77.....	....	21,415,128
1877-78.....	20,853,074	22,084,203
1878-79.....	19,339,151	22,162,988
1879-80.....	20,307,563	24,018,529
1880-81.....	17,774,910	24,617,395
1881-82.....	15,700,704	25,146,260
1882-83.....	28,441,212	24,083,922
1883-84.....	32,242,770	25,377,379
1884-85.....	32,770,900	25,840,728
1885-86.....	29,160,835	26,991,805
1886-87.....	32,642,785	26,844,031
1887-88.....	30,286,247	25,862,977
1888-89.....	37,982,948	26,031,223
1889-90.....	37,912,848	24,328,326
1890-91.....	35,259,131	24,237,449
1891-92.....	46,272,391	25,527,018
1892-93.....	44,303,593	27,169,876
1893-94.....	36,012,950	30,185,612
1894-95.....	36,716,870	27,628,981
1895-96.....	46,722,823	22,634,788
	\$616,741,920	\$541,029,630

This table embraces the silver exported and coined in twenty-one years, from 1874-75 to 1895-96, excepting the years 1875-77, as I do not have the figures of the silver exported during the same, and the difference between the two amounts for these years is \$75,712,-290, showing the large proportion of silver which was not coined.

Under the Spanish laws, all silver paid a duty; and as most of it was coined, that duty was levied on coinage, and the exportation of bullion was prohibited; but of course a great deal was smuggled, both during the Spanish rule and still more when Mexico was opened to foreign trade after our Independence. When I occupied for the first time the Treasury Department of Mexico in 1868, it seemed to me an outrage against the mining industry of the country to require the miners—especially those who were far removed from the mints—to take their bullion to the mints, at a heavy expense and risk, coin it there and take it back to the mines, and from there to the ports to be exported to London, where it was often again turned into bullion; and as the contracts made with the lessees of the mints did not allow the free exportation of bullion, I proposed and succeeded in having enacted a law for the purpose of allowing bullion to be exported, provided that it paid the coinage duty at the respective custom-houses for the benefit of the latter's lessees; and this condition of things, extraordinary as it may seem, was a great relief to the silver producers, and continued until the Mexican Government could recover all the mints and be free to legislate on the subject, which it was able to do partially during my last incumbency of the Treasury Department; and they have all since been recovered.

RAILWAYS.

For many years the government tried very assiduously to have railroads constructed in Mexico, but the broken surface of the country made the building of these roads very expensive. Until 1873 the means of internal locomotion were mainly limited to the wretched bridle paths from the Central Plateau over the sierras and terrace lands down to a few points on both coasts, and to twenty-four regular lines of diligences under one management.

In 1854 the first railroad was finished between the City of Mexico and Gaudalupe, about three miles in length, with a small branch from Vera Cruz to Tejeria towards the City of Mexico, about 12 miles in length, these being the only railways that were built up to 1861. During the French Intervention the French army prolonged the Tejeria road to Paso del Macho, about 35 miles to the foot of the mountain, so as to be able to transport their army with the shortest

delay possible out of the yellow fever zone, and an English Company which had a grant for a road from the City of Mexico to Vera Cruz, which was supposed at the time to be the only one that could be built in Mexico, extended the Guadalupe road to Puebla.

No construction of consequence was done immediately after the French Intervention, because the country was generally in a disturbed condition, although several efforts were made in that direction by President Juarez. The Vera Cruz road was finished 1873, under Señor Lerdo de Tejada's Presidency, and when General Diaz became President in 1876 he earnestly promoted railroad building; and we now have two trunk lines connecting the City of Mexico with the United States—the Mexican Central to El Paso, Texas, with a branch from San Luis Potosí to the port of Tampico; and the Mexican National to Laredo, Texas. Another trunk line from Eagle Pass to Torreon and Durango has also been built by Mr. C. P. Huntington and his associates. There is besides a line from Nogales to Guaymas, built and owned by the Atchison, Topeka and Santa Fé Co., and these four lines connect us with the main systems of the United States, our lines being in fact extensions of the United States railway system. We have now two lines from the City of Mexico to Vera Cruz. All of our roads, excepting the one built by Mr. Huntington, have had large subsidies paid by the Mexican Government, and in some cases, as in the Vera Cruz Railroad, the subsidy paid was \$560,000 per English mile. The amount of subsidies forms a large portion of our debt, as will be shown hereafter.

The Tehuantepec railway running from Coatzacoalcos, on the Gulf of Mexico, to Salina Cruz, on the Pacific, about 130 miles in length, has been built at great expense and sacrifice by the Mexican Government. I published in the *Engineering Magazine* for March, 1894, an article relating the different efforts made by the Mexican Government to have that road built, and the advantages that we expected from it as a highway of trade between the Atlantic and the Pacific. The Mexican Government has recently made a contract with a London firm, for the purpose of building good harbors at both ends of the road, and when that is accomplished we expect that a great deal of eastern trade will pass through Tehuantepec.

With the exception of the Tehuantepec road we have not any running from the Atlantic to the Pacific, although several are in process of construction. The descent of the mountains is on the Pacific slope a great deal more difficult than on the Gulf coast, and this explains why none of the roads have so far been able to reach the Pacific Ocean.

Our railway system goes towards Guatemala as far as the City of Oaxaca, and there we are only about 500 miles away from our frontier with Guatemala. Otherwise, our system reaches the principal cities and commercial and mining centres of the country.

The following table shows the annual building and earnings of railroads in Mexico:

ANNUAL BUILDING AND EARNINGS OF RAILWAYS IN MEXICO.

	KILOMETRES OF ROAD BUILT.		ANNUAL EARNINGS.
	EACH YEAR.	TOTAL.	
1873 . . . . .	....	578.248	\$2,097,104.55
1874	8.680	586.928	2,665,496.18
1875	75.780	672.708	2,799,696.13
1876	3.645	666.353	2,563,241.00
1877	6.018	672.371	3,213,434.17
1878	65.577	737.948	3,400,799.89
1879	147.979	885.927	3,828,718.65
1880	193.650	1,079.577	4,504,135.39
1881	691.791	1,771.368	5,679,193.37
1882	1,937.843	3,709.211	9,883,719.51
1883	1,727.479	5,436.690	12,102,583.34
1884	454.677	5,891.367	11,089,136.39
1885	118.470	6,009.837	10,656,551.42
1886	79.018	6,088.855	11,373,667.63
1887	519.954	6,608.809	13,310,218.79
1888	1,217.506	7,826.351	16,121,267.79
1889	628.692	8,455.007	18,788,142.29
1890	1,262.926	9,717.933	20,919,287.14
1891	796.651	10,514.584	23,762,172.87
1892	566.765	11,081.349	25,363,922.29
1893	23.865	11,057.484	25,359,244.06
1894	191.206	11,248.690	.....

The total mileage of railway in 1895 was 6,989½ English miles. In 1893 we had 37,880 English miles of telegraph lines, of which 24,840 belonged to the Federal Government, the remainder belonging in about equal parts to the States, private companies and railways.

The following table contains a list of all the railroads, exclusive of the tramways, built in Mexico up to the 31st of December, 1896, prepared by the Department of Communications of the United Mexican States, which I think of interest to insert here:

OFFICIAL STATEMENT MADE BY THE DEPARTMENT OF COMMUNICATIONS OF THE MEXICAN GOVERNMENT OF THE RAIL-ROAD MILEAGE IN OPERATION ON OCTOBER 31, 1890.

(1) The initials at the beginning of each line of this table stand for the gauge of the railroads: S. for standard, N. for narrow, and B. for both.

NAME.	DATE OF CONCESSION.	LENGTH.	FROM AND TO.
(1) S. Mexican.	Nov. 27, 1867	292.50	Mexico to Veracruz and Apizaco to Puebla.
S. Mérida to Progreso.	Jan. 17, 1874	22.65	Mérida to Progreso.
N. Hidalgo.	Feb. 2, 1878	92.43	Tepa to Sototlan, Tepa to Pachuca and San Augustin to Tepa.
B. Veracruz to Alvarado.	Mar. 26, 1878	43.75	Veracruz to Medellin and Medellin to Alvarado.
N. Mérida to Peto.	Mar. 27, 1878	68.97	Merida to Ingenio de Sta. Maria.
N. Interoceanic from Acapulco to Veracruz.	Apr. 16, 1878	489.74	Mexico to Veracruz, Mexico to Puente Ixtla by Morelos and branches of Virreyes to Libres and San Nicolas.
N. Puebla to Isucar de Matamoros.	May 6, 1878	52.39	Los Arcos to Cholula, Cholula to Atlixco and Atlixco to Matamoros.
S. Mexican Western.	Aug. 16, 1880	38.48	Culiacan to Atlata.
S. Mexican Central.	Sept. 8, 1880	1,877.15	Mexico to Paso del Norte, Silao to Guanajuato, Irapuato to Guadalajara, Aguascalientes to Tampico, San Blas to Huastemba and Guadalajara to Ameca.
N. Mexican National.	Sept. 13, 1880	1,056.16	Mexico to Laredo, Acambara to Platzcuaro, Matamoros to S. Miguel, Mexico to Salto, Circunvalacion, t r a m w a y s from suburbs of Mexico called La Colonia to El Salto.
N. Mexican National Construction Company.	Sept. 13, 1880	88.30	Manzanillo to Colima and Zcatecas to Ojo Caliente.
S. Sonora.	Sept. 14, 1880	262.40	Guaymas to Nogales.
N. Mérida to Valladolid.	Dec. 15, 1880	67.53	Merida to Valladolid and Progreso to Conkal.
N. Tlalmanalco.	Feb. 3, 1881	16.56	Tlalmanalco to Chalco and Amecameca.
N. Mérida to Campeche.	Feb. 23, 1881	97.80	Mérida to Campeche, Campeche to Calkini and connecting line with the railroad from Mérida to Progreso.
N. Campeche to Lerma.	Feb. 23, 1881	3.73	Campeche to Lerma.
S. Mexican International.	June 7, 1881	658.28	Porfirio Diaz City to Torreon and Durango, Sabinas to Hondo, Matamoros to Zaragoza, Hornos to San Pedro, branch from Velardena and Monclova to Cuatro Ciénegas.
N. Nautla to San Marcos.	June 25, 1881	47.22	San Marcos toward Nautla and branch to Libren.
N. San Juan Bautista to Paso del Carri- zal.	Sept. 17, 1881	3.57	S. Juan Bautista to Tamulte.

NAME.	DATE OF CONCESSION.	LENGTH.	FROM AND TO.
S. Chalchicomula.	Sept. 20, 1881	6.43	San Andres Chalchicomula.
S. Orizaba to Ingenio.	Sept. 22, 1881	4.69	Orizaba to Ingenio.
S. Santa Ana to Tlaxcala.	Dec. 11, 1882	5.28	Santa Ana to Tlaxcala.
N. Cardenas to the River Grijalva.	May 12, 1883	4.66	Cardenas to the River Grijalva.
N. Toluca to San Juan de las Huertas.	May 25, 1883	9.77	Toluca to San Juan de las Huertas.
N. Vanegas, Cedral, Matehuala and Rio Verde.	June 11, 1883	40.39	Vanegas to Cedral and branch to Potrero.
S. Tehuacan to Esperanza.	Nov. 28, 1883	31.07	Esperanza to Tehuacan.
S. Mérida to Izamal.	May 15, 1884	40.91	Mérida to Izamal.
S. Chihuahua and Hidalgo to the Sierra Madre.	Nov. 13, 1884	6.83	Chihuahua to the Sierra Madre and Jimenez to Balleza.
N. Southern Mexican.	Apr. 21, 1886	228.00	Puebla to Oaxaca.
S. Tonalá to Textla and Frontera.	Dec. 16, 1886	31.07	Tonalá to Kilometre.
S. Lower California.	May 25, 1887	16.78	San Quintin to the Colorado River.
S. Monterey to the Gulf.	Nov. 10, 1887	388.12	Monterey to Treviño and Monterey to Tampico.
N. Tecolutla to Espinal.	Dec. 10, 1887	13.04	Tecolutla to Espinal.
S. Córdova to Tuxtepec.	May 19, 1888	31.69	Córdova to Motzorongo.
S. Pachuca to Tampico.	June 5, 1888	6.21	Isolated Branch.
N. Maravatio to Cuernavaca.	Aug. 16, 1888	40.84	Maravatio towards Cuernavaca and branches to Agangué to Trojes.
N. Northeastern of Mexico.	Aug. 28, 1888	31.12	Mexico to Tizayuca.
N. Salamanca to Jaral.	Aug. 30, 1888	21.75	Salamanca to Jaral.
N. Monte Alto.	Aug. 30, 1888	6.21	Tlalnepantla to Pedregal.
N. Veracruz to Boca del Rio.	Aug. 31, 1888	13.67	Veracruz to Boca del Rio.
S. National Tehuantepec.	Government Road.	192.38	Coatzacoalcas to Salina Cruz.
S. Ometusco to Pachuca.	May 25, 1889	28.40	Ometusco to Pachuca.
S. Puebla Industrial.	July 21, 1889	22.21	Puebla to Constancia, Cholula and Huejotzingo.
S. Tula to Pachuca.	Dec. 20, 1889	43.49	Tula to Pachuca.
S. Minero.	Mar. 20, 1890	80.94	Escalon to Sierra Mojada and branches.
S. México to Cuernavaca and the Pacific.	May 30, 1890	58.65	Mexico to Tres Marias and Puente de Ixtla to Mexcala.
N. Mixcalco to Santa Cruz.	June 13, 1890	2.77	Mixcalco to Santa Cruz.
N. Izucar of Matamoros to Acapulco.	Nov. 21, 1890	24.85	Matamoros towards Acapulco.
N. Toluca to Tenango.	Nov. 24, 1891	4.35	Toluca to Tenango.

NAME.	DATE OF CONCESSION.	LENGTH.	FROM AND TO.
N. Hacienda of Xavaleta to the San Rafael Paper Factory.	Mar. 24, 1892	2.49	Hacienda of Xavaleta to San Rafael Paper Mill.
S. Esperanza to Xuchil.	Nov. 29, 1892	15.84	Esperanza to Xuchil Station.
N. Guanajuato to Dolores, Hidalgo and San Luis de la Paz.	May 24, 1893	6.21	Rincon on the National Railroad to San Luis de la Paz.
S. Villa Lerdo to San Pedro de la Colonia.	June 3, 1893	15.84	Villa Lerdo to Sacramento.
N. Celaya to the farms of Roque and Plancarte.	June 2, 1893	9.07	Celaya to the farms of Roque and Plancarte.
N. From La Compañia to the Zoquiapan farm.	June 13, 1893	5.17	La Compañia to the Zoquiapan farm.
S. Cazadero to Solis.	May 24, 1893	18.64	Cazadero to point between the stations of Solis and Tepetongo.
S. Industrial Railroads.	Dec. 18, 1895	1.86	Mexico to Xochimilco.
	Total.	(1) 6,891.30	

(1) This amount does not include the tramways.

POLITICAL ORGANIZATION.

Mexico was the largest and richest American colony of Spain, and for this reason it was called New Spain. The City of Mexico grew during the Spanish rule to be larger than Madrid, the capital of the Spanish Kingdom; and the population of the country was calculated in 1810, just before the independence movement began, at about 6,000,000 of inhabitants; while the public revenue of the whole colony amounted to the very large sum of \$20,000,000 yearly, the only exports of the country being silver and gold, and commodities of great value in small volume and weight, like cochineal, vanilla, indigo, and a few others.

Mexico accomplished her independence in 1821, and since then has had two Federal constitutions, organizing it into a centralized Republic, and two ephemeral empires, one under Iturbide, lasting a few months, from 1822 to 1823; and the other under Maximilian, established by French intervention, lasting from 1864 to 1867.

Mexico is now organized under the Constitution of the 5th of February, 1857, with its several amendments, into a Federal Republic composed of twenty-seven States, two territories and a federal district, and the political organization is almost identical with the one prevailing in this country. The powers of the Fed-

eral Government are divided into three branches—Legislative, Executive and Judicial. The Legislative is composed of a House of Representatives and a Senate, the members of the House serving two years and the Senators four, the Senate being renewed by half every two years. Representatives are elected by the suffrage of all male adults, at the rate of one member for every 40,000 inhabitants. The qualifications requisite are to be twenty-five years of age and a resident of the State; and thirty years of age for Senators. The Executive is exercised by a President elected by the electors popularly chosen, who holds his office for four years, without any provision forbidding his re-election. He has a cabinet of seven members, to wit: Foreign Affairs, Interior, Justice, Fomento (Promotion of Public Improvements), Communications, Treasury, and War and Navy. There is no Vice-President elected, but the Secretary of State replaces the President in case of temporary sickness or absence, while in case of death or permanent inability, Congress elects a provisional president, who discharges the office until one is elected by the people.

The Federal Judiciary is composed of a Supreme Court, three District and thirty-two Circuit Courts.

The States are independent in their domestic affairs, and their governments are similarly divided into three branches—the Governor, Legislature, and the State Judiciary.

As we adopted the federal system rather to follow the example of the United States than to suit the conditions of Mexico, that system did not work with us so easily or satisfactorily as it does here, and the tendency is rather to centralization and to increase the power given by the Constitution to the Federal government. In an article that I published in the *North American Review* for January, 1896, entitled "The Philosophy of the Mexican Revolutions," I dwelt especially on the result of our having copied almost literally the political institutions of the United States, and gave a general idea of our political condition.

The tabular statement published above under the head of *Population* shows the number of States which form the Mexican Confederation, their area, population and capitals.

The army consists of: Infantry, 22,964; engineers, 766; artillery, 2,304; cavalry, 8,454; rural guards of police, 2,365; gendarmerie, 250; total, 37,103. There are over 3,000 officers. There is a fleet of two unarmored gun-vessels, each 450 tons and 600 horse-power, and armed with 20-pounders; one training ship of 1,221 tons, armed with four (4.72) guns, two of 57 m-m guns, and two 32 m-m guns, and three small gunboats.

REVENUES AND EXPENSES.

The financial question was for many years the leading and the most difficult one in Mexico, because the urgent needs of the Treasury specially on account of the disturbed condition of the country, made public expenses considerably exceed the revenue, and this condition did not allow of a thorough overhauling and settlement of the finances, nor did it contribute to establish the credit of the Government; but peace prevailing since 1877, a great improvement has taken place in the financial condition of Mexico; the revenue has increased considerably, and it has finally reached an amount amply sufficient to pay all our expenses. During the last fiscal year, for the first time in the history of Mexico since its independence, there was a *surplus* which amounted to \$6,000,000. The obnoxious taxes which we inherited from the Spanish, called "alcabalas," or interstate duties, on domestic and foreign commerce, were a great drawback to internal trade, and were finally abolished on July 1st, 1896; and the country is now in a condition when radical reforms can be introduced without serious disturbances.

The subjoined tables give the amount of the Federal revenue and expenses of Mexico since her independence up to the last fiscal year as far as I have been able to collect them. When Mexico was under a centralized Republic, as from 1834 to 1847 and from 1853 to 1855, the receipts and expenses embraced the Provincial or State revenues and expenses.

STATEMENT OF THE REVENUE AND EXPENSES OF THE FEDERAL GOVERNMENT OF MEXICO FROM 1828 TO 1896.

	REVENUE.	EXPENSES.
1808, Colonial period.....	\$20,075,362.25	.....
1822.....	9,328,740.00	\$13,455,377.00
1823.....	5,249,858.96	3,030,878.50
1824.....	15,254,601.03	15,165,876.05
1825 to Sept. 1st.....	7,903,163.42	13,110,187.24
Sept. 1, 1825, to June 30, 1826....	14,770,733.30	13,112,200.65
1826-27.....	17,017,016.59	16,364,218.36
1827-28.....	13,644,974.69	12,982,092.86
1828-29.....	14,593,307.69	14,016,978.27
1829-30.....	14,103,773.28	13,728,491.39
1830-31.....	18,392,134.96	17,601,289.67
1831-32.....	17,582,929.15	16,937,384.67
1832-33.....	20,563,360.77	22,392,607.90
1833-34.....	21,124,216.81	19,934,490.42
1834-35.....	18,353,283.00	12,724,686.62
1835-36.....	26,382,303.90	17,766,262.81
1836-37.....	17,327,706.15	19,181,138.95
1837-38.....	25,018,121.77	26,588,305.03

	REVENUE.	EXPENSES.
1839.....	\$29,136,536.64	\$27,318,729.73
1840.....	21,227,263.43	21,235,097.67
1841.....	23,995,766.52	22,997,220.18
1842.....	30,682,369.40	30,639,711.00
1843.....	34,138,581.72	34,035,277.13
1844.....	31,873,019.47	31,260,225.87
1845.....	24,159,050.04	19,584,812.91
1846.....	24,026,938.36	27,845,487.28
1847.....	26,154,222.84	31,251,467.91
1848 to June 30, 1849.....	25,726,737.23	19,742,876.48
1849-50.....	18,281,835.38	17,291,233.25
1850-51.....	14,955,535.73	14,477,369.06
1851-52.....	11,022,291.17	10,475,686.10
1852-53.....	10,044,298.40	16,287,532.90
1853-54.....	19,028,975.00	18,726,088.00
1854-55.....	26,259,970.45	23,396,074.75
1855-56.....	15,855,597.47	12,920,257.65
1856-57.....	16,035,609.81	12,977,265.90
1857-58.....	15,529,887.47	15,927,102.01
1858-59.....	14,737,763.76	16,005,536.45
1859-60.....	14,306,675.28	16,589,034.47
1860-61.....	12,863,500.00	12,750,500.00
1861-62.....	15,500,000.00	15,300,600.00
1862-63.....	17,600,000.00	17,595,690.00
1863-64.....	7,000,000.00	6,990,000.00
1864-65.....	5,950,000.00	5,045,000.00
1865-66.....	5,057,500.00	5,053,250.00
1866-67.....	8,092,000.00	8,085,200.00
1867-68.....	17,258,170.02	16,605,678.48
1868-69.....	17,117,746.45	16,862,024.12
1869-70.....	13,301,076.45	16,669,985.28
1870-71.....	14,539,301.90	21,318,505.16
1871-72.....	19,025,250.91	18,346,109.21
1872-73.....	21,944,440.63	20,689,345.80
1873-74.....	22,197,802.02	20,910,193.07
1874-75.....	22,839,921.90	18,242,894.31
1875-76.....	23,672,498.11	24,891,502.18
1876-77.....	16,866,938.03	25,839,255.93
1877-78.....	30,051,366.05	30,273,361.87
1878-79.....	19,772,638.13	21,748,902.78
1879-80.....	17,811,124.96	18,895,198.65
1880-81.....	21,124,037.53	23,128,218.60
1881-82.....	23,172,723.58	25,217,633.82
1882-83.....	30,466,093.74	27,011,509.06
1883-84.....	32,850,951.25	30,713,996.14
1884-85.....	28,284,927.95	25,825,433.83
1885-86.....	30,660,434.24	38,903,353.16
1886-87.....	27,810,909.05	31,736,205.27
1887-88.....	31,168,352.99	36,270,451.48
1888-89.....	33,932,226.79	38,527,239.84
1889-90.....	34,374,783.32	36,765,906.54
1890-91.....	38,486,601.49	38,439,494.21
1891-92.....	37,391,804.99	38,377,364.85
1892-93.....	37,474,879.20	40,367,047.58
1893-94.....	41,216,893.56	44,634,793.33
1894-95.....	46,907,123.16	45,078,551.95
1895-96.....	50,521,470.42	.....

The authorized expenses of the Federal Government for the fiscal year 1896-1897 amount to \$47,554,926.50. The State revenues, including the municipal taxes, collected during the last fiscal year amounted, approximately, to \$28,000,000.

Our expenses as an independent nation are large, and as a comparatively small portion of our population are really producers of wealth, upon them lies the whole burden of such expenses; that is, we are a nation of from twelve to fifteen millions of inhabitants, with a very large territory and a large coast on both oceans, requiring army and police service and other expensive institutions proportionate to such extent and population, when the portion which contributes to such expenses is only about one-fifth of the same.

IMPORTS AND EXPORTS.

Before the railway era, Mexico could practically export only silver and gold, because transportation was so high on account of the broken condition of the country and the long distances that had to be passed over the mountains, that only articles of great value and comparatively small volume and weight, could be profitably transported; but since the railways have revolutionized transportation in the country, other natural products, especially agricultural ones, have begun to be exported, and their exportation is increasing considerably. As yet the precious metals, especially silver, are the main exports from Mexico, representing about 61 per cent. of our total annual exports; but other commodities are being developed and they are in a fair way to exceed in value the silver exports.

The following tables give the value of the total imports and exports from Mexico, as well as from and to the United States, for several years of which there are official data, compiled by the Bureau of Statistics of the Mexican Treasury Department:

TABLE SHOWING THE TOTAL IMPORTS TO MEXICO AND THE IMPORTS FROM THE UNITED STATES FROM THE FISCAL YEAR 1872-73 TO THE FISCAL YEAR 1895-96.

	IMPORTS FROM UNITED STATES. VALUE.	TOTAL IMPORTATIONS. VALUE.
1872-73.....	\$5,231,255	\$20,166,013
1873-74.....	5,946,614	23,282,299
1874-75.....	5,028,636	18,793,494
1884-85.....	5,045,531	11,893,342
1885-86.....	5,145,736	10,585,898
1888-89.....	22,669,421	40,024,894
1889-90.....	29,080,276	52,018,659
1892-93.....	26,235,963	43,413,131
1893-94.....	14,351,785	30,287,489
1894-95.....	15,130,367	34,000,440
1895-96.....	20,145,763	42,253,938

TABLE SHOWING THE TOTAL EXPORTS FROM MEXICO AND THE EXPORTS TO THE UNITED STATES OF AMERICA FROM THE FISCAL YEAR 1877-78 TO THE YEAR 1895-96.

	EXPORTS TO THE U. S.			TOTAL EXPORTS.		
	PRECIOUS METALS.	COMMODITIES.	TOTAL.	PRECIOUS METALS.	COMMODITIES.	TOTAL.
1877-8....	\$8,664,052	\$3,676,937	\$12,340,989	\$22,663,438	\$6,622,223	\$29,285,661
1878-9....	7,439,815	4,741,724	12,181,539	21,528,938	8,362,540	29,891,478
1879-80....	6,848,231	6,568,375	13,416,606	22,086,418	10,577,136	32,663,554
1880-1....	7,601,767	6,556,424	14,158,191	19,354,704	10,573,994	29,928,698
1881-2....	5,451,731	8,309,131	13,760,862	17,063,767	12,019,526	29,083,293
1882-3....	9,036,773	7,702,325	16,739,098	29,628,658	12,178,937	41,807,595
1883-4....	12,822,241	9,002,160	21,824,401	33,473,283	13,252,213	46,725,496
1884-5....	16,404,776	9,448,285	25,853,061	33,774,051	12,896,794	46,670,845
1885-6....	15,496,336	9,933,259	25,429,595	29,906,401	13,741,316	43,647,717
1886-7....	16,576,120	11,152,595	27,728,715	33,566,502	15,631,427	49,197,930
1887-8....	17,915,116	13,144,511	31,059,627	31,006,188	17,879,728	48,885,908
1888-9....	23,647,920	17,205,443	40,853,363	38,785,275	21,373,148	60,158,423
1889-90....	24,098,147	18,024,294	43,022,441	38,621,290	23,878,099	62,499,389
1890-1....	23,400,833	21,582,253	44,983,086	36,256,372	27,020,023	63,276,395
1891-2....	30,447,566	19,485,099	49,932,665	49,137,374	26,330,411	75,467,785
1892-3....	40,113,882	23,723,761	63,837,643	56,504,305	31,004,016	87,509,221
1893-4....	36,681,273	23,978,970	60,660,243	46,484,360	32,858,027	79,343,287
1894-5....	38,852,843	28,470,143	67,322,986	52,535,854	38,319,099	90,854,953
1895-6....	51,071,661	28,580,034	79,651,695	64,838,596	49,178,306	105,016,902
	\$392,571,083	\$272,185,723	\$664,756,806	\$677,209,705	\$374,698,755	\$1,051,908,460

The following is a table of the articles of merchandise exported from Mexico, and it appears from the same that they are all either mineral or agricultural products, especially raw materials:

METALS.	
Gold ore.....	\$160,555
Gold coin.....	169,794
Gold bullion.....	20,377,663
Silver ore.....	10,885,479
Silver coin.....	5,246,418
Silver bullion.....	26,345,160
Sulphate of silver.....	1,030,156
Foreign gold and silver and silver in other combinations.	623,371
Total.....	\$64,838,596
COMMODITIES.	
Coffee.....	\$8,103,302
Henequen.....	6,763,821
Cabinet and dye woods.....	4,206,880
Copper.....	3,909,485
Lead.....	2,531,624
Live animals.....	3,546,770
Hides and skins.....	2,331,999
Chewing gum.....	1,527,838
Tobacco.....	1,461,090
Vanilla.....	1,428,675
Ixtle.....	690,862
Zacaton—broom root.....	616,492
Cheak peas.....	352,737
Coal.....	270,176
Marble.....	258,668
Fruits.....	246,150
Sugar.....	169,662
Horse hair, beans and jalap.....	247,768
All others.....	1,514,307
Total.....	40,178,306
	\$105,016,902

The normal cost of transportation on merchandise from the City of Mexico to Vera Cruz, a distance of one hundred Mexican leagues or $263\frac{3}{4}$ English miles, used to be, before the railroad was built, \$68.75 per ton of 2,200 pounds, or more than 26 cents per mile and ton; and in extraordinary circumstances, as during the French intervention in Mexico from 1861 to 1867, the freights were as high as \$330 per ton, or over \$1.25 per mile and ton. Therefore, no article could be transported unless it was very much needed and commanded a very high price. The result was that the people raised just enough to provide for the wants of themselves and their immediate neighbors. A fact that may seem incredible is that among the farmers a good crop was considered a great misfortune.

But with the opening of new roads, I have no doubt that if our exports continue to increase in the same proportions as they have done, Mexico will be able to supply the United States with most of the tropical products that are now consumed here, and even others that would be used if they could be cheaply transported.

Desiring to state the imports and exports of the United States to and from Mexico, I took such data, inserted below, from 1826 to 1858 from a book published in Washington in 1860 by Mr. Carlos Butterfield entitled "The United States and Mexican Mail Steamship Line and Statistics of Mexico," and from 1866 to 1896 from the official reports of the Bureau of Statistics of the United States Treasury Department.

THE FOLLOWING STATEMENT TAKEN FROM THE UNITED STATES TREASURY REPORT DEMONSTRATES THE COMMERCIAL TRANSACTIONS BETWEEN MEXICO AND THE UNITED STATES FROM 1826 TO 1858:

YEARS.	EXPORTS FROM MEXICO INTO THE UNITED STATES.	EXPORTS FROM THE UNITED STATES INTO MEXICO.
1826.	\$3,916,000	\$6,281,000
1827.	5,232,000	4,163,000
1828.	4,814,000	2,886,000
1829.	5,026,761	2,331,151
1830.	5,235,241	4,837,458
1831.	5,167,000	6,178,000
1832.	4,293,954	3,467,541
1833.	5,459,818	5,408,091
1834.	8,666,668	5,265,053
1835.	9,490,446	9,029,221
1836.	5,615,819	6,040,635
1837.	5,654,002	3,880,323
1838.	3,127,153	2,787,362
1839.	5,500,707	2,164,097
1840.	4,175,000	2,515,341
1841.	3,484,957	2,036,620
1842.	1,996,694	1,534,493
1843.	2,782,406	1,471,937
1844.	2,387,000	1,794,833
1845.	1,702,936	1,152,331
1846.	1,836,621	1,531,180
1847.	746,818	692,428
1848.	1,581,247	4,058,446
1849.	2,216,719	2,090,869
1850.	2,135,336	2,012,827
1851.	1,804,779	1,518,783
1852.	1,649,206	2,284,929
1853.	2,167,985	3,558,824
1854.	3,463,190	3,135,486
1855.	2,822,830	2,922,804
1856.	3,568,681	3,702,239
1857.	5,985,867	3,615,206
1858.	5,477,465	3,315,825
Total.	\$129,245,327	\$109,373,332
Average per year.	3,916,525	3,325,377

YEAR ENDING.	EXPORTS TO			IMPORTS FROM	TOTAL IMPORTS AND EXPORTS.
	DOMESTIC.	FOREIGN.	TOTAL.		
1859.....	\$2,307,170	\$685,376	\$2,992,546	\$5,339,974	\$8,332,520
1860.....	3,338,759	2,015,334	5,354,093	6,935,872	12,289,965
1861.....	1,564,062	651,828	2,215,890	3,689,213	5,905,103
1862.....	1,840,720	340,454	2,181,174	2,684,852	4,866,026
1863.....	7,493,167	1,579,045	9,072,212	4,529,584	13,601,796
1864.....	10,927,960	1,753,594	12,681,554	7,884,391	20,565,945
1865.....	14,484,213	2,530,867	17,015,080	7,354,173	24,369,253
1866.....	3,701,599	871,619	4,573,218	1,726,092	6,299,310
1867.....	4,823,614	572,182	5,395,796	1,071,936	6,467,732
1868.....	5,048,420	1,392,919	6,441,339	1,590,667	8,032,006
1869.....	3,835,699	1,047,408	4,883,107	2,336,164	7,219,271
1870.....	4,544,745	1,314,955	5,859,700	2,715,665	8,575,365
1871.....	5,044,033	2,568,080	7,612,113	3,209,688	10,821,801
1872.....	3,420,658	2,132,931	5,543,589	4,002,920	9,546,509
1873.....	3,941,019	2,323,882	6,264,901	4,276,165	10,541,066
1874.....	4,016,148	1,930,691	5,946,839	4,346,364	10,293,203
1875.....	3,872,004	1,865,278	5,737,282	5,174,594	10,911,876
1876.....	4,700,978	1,499,594	6,200,572	5,150,572	11,351,144
1877.....	4,503,802	1,389,692	5,893,494	5,204,264	11,097,758
1878.....	5,811,429	1,649,275	7,460,704	5,251,502	12,712,206
1879.....	5,400,380	1,351,864	6,752,244	5,493,221	12,245,465
1880.....	6,065,974	1,800,519	7,866,493	7,209,593	15,076,086
1881.....	9,198,077	1,973,161	11,171,238	8,317,802	19,489,040
1882.....	13,324,505	2,158,077	15,482,582	8,461,899	23,944,481
1883.....	14,370,992	2,216,628	16,587,620	8,177,123	24,764,743
1884.....	11,089,603	1,614,689	12,704,292	9,016,486	21,720,778
1885.....	7,370,599	970,185	8,340,784	9,267,021	17,607,805
1886.....	6,856,077	881,546	7,737,623	10,687,972	18,425,595
1887.....	7,267,129	692,428	7,959,557	14,719,840	22,679,397
1888.....	9,242,188	655,584	9,897,772	17,329,889	27,227,661
1889.....	10,886,288	600,608	11,486,896	21,253,601	32,740,497
1890.....	12,666,108	619,179	13,285,287	22,690,915	36,976,202
1891.....	14,199,080	770,540	14,969,620	27,295,992	41,588,991
1892.....	13,696,531	597,468	14,293,999	28,107,525	42,401,524
1893.....	18,891,714	676,920	19,568,634	33,555,099	53,123,733
1894.....	12,441,805	400,344	12,842,149	28,727,006	41,569,155
1895.....	14,582,484	423,422	15,005,906	15,635,788	30,641,694
1896.....	18,686,797	763,459	19,450,256	17,456,177	36,906,433

NOTE.—In the absence of law providing for the collection of statistics of exports to adjacent foreign territory over railways, the values of exports to Mexico, from 1883 to 1893 inclusive, have been considerably understated. Since March, 1893, there has been a law in force for the collection of exports by railways. According to official information from Mexican sources, the value of imports into that country from the United States during the year ending June 30, 1888, was \$19,264,673, including precious metals valued at \$38,362. Prior to 1866 the figures include gold and silver imported and exported. For 1866 and subsequent years, merchandise only.—Foot note from Statistical Bureau Report.

The following table contains a detailed statement of the commodities imported into the United States from Mexico, and exported from the United States to Mexico, during the years from 1858 to 1896, prepared by the Bureau of Statistics of the Treasury Department of the United States of America:

STATEMENT SHOWING THE QUANTITIES AND VALUES OF THE PRINCIPAL AND ALL OTHER ARTICLES OF IMPORTS INTO THE UNITED STATES
FROM, AND OF EXPORTS FROM THE UNITED STATES TO, MEXICO, 1858-1883.
IMPORTS OF MERCHANDISE FROM MEXICO.

YEAR ENDED JUNE 30—	BREADSTUFFS AND OTHER FARINA- CEOUS FOOD.*		COFFEE.	COPPER, PIGS, BARS, INGOTS, OLD, AND OTHER UNMANUFACTURED.	CHEMICALS, DRUGS, DYES AND MEDICINES.			HIDES AND OTHER THAN FURS.	HAIR UN- MANU- FACTURED.	INDIA RUBBER AND GUTTA-PERCHA, CRUDE, OR UNMAN- UFACTURED.	TONS.	JUTE, AND OTHER GRASSES, RAW.
	Indian corn.	All other.			Cochi- neal and indigo.	Dye- woods in sticks.	All other.†					
1858..	\$34,686	\$88,198	29,687	\$3,259	.....	\$1,437	\$107,649	\$1,030	\$11,261	.....	406	\$50,173
1859..	45,520	15,794	45,518	6,036	.....	3,638	46,268	1,336	485	.....	389	44,861
1860..	28,940	5,124	549,265	64,616	.....	10,542	101,115	110	2,074	.....	251	25,114
1861..	19,612	8,445	491,416	59,405	.....	91,645	115,757	411	2,264	.....	382	23,679
1862..	.....	6,399	7,175	1,026	.....	49,564	97,076	11,830	11,535	1,586	252	23,537
1863..	.....	15,018	935,594	122,663	.....	91,151	48,094	10,830	912	.....	898	44,617
1864..	.....	9,818	11,236	2,927	.....	123,434	110,209	12,622	2,490	.....	261	63,455
1865..	.....	6,337	595	109	.....	132,959	136,341	40,722	1,607	.....	20	36,466
1866..	.....	.....	524,777	84,478	.....	96,362	69,350	40,722	3,106	.....	333	104,453
1867..	9,975	5,183	138,005	18,468	.....	130,154	187,337	38,526	2,868	.....	862	116,455
1868..	34,269	29,599	882,521	112,159	.....	144,144	187,337	38,526	2,613	.....	600	237,893
1869..	71,163	53,110	203,948	22,069	.....	144,971	207,859	64,510	2,728	8,648	2,006	469,235
1870..	70,321	8,551	110,607	13,223	.....	402,836	244,932	28,386	4,697	23,594	3,909	631,000
1871..	104,554	68,313	1,878,301	59,454	.....	117,745	36,669	53,306	6,442	93,046	3,328	656,044
1872..	74,207	43,114	1,878,301	28,022	.....	104,772	30,660	286,781	15,940	106,417	3,244	784,809
1873..	53,547	62,720	2,035,540	314,347	.....	55,239	27,252	163,745	55,120	181,554	2,599	534,089
1874..	61,081	37,720	2,030,385	694,611	.....	61,064	65,662	79,099	18,695	72,963	4,867	694,254
1875..	33,628	31,092	2,601,889	485,489	.....	600	63,058	158,279	28,784	115,697	6,182	615,358
1876..	45,999	40,022	3,941,229	713,833	.....	39,736	150,413	247,427	70,230	39,835	6,846	546,726
1877..	25,791	39,411	6,789,693	1,265,970	.....	32,726	72,402	210,197	29,317	43,334	7,278	889,776
1878..	12,321	39,411	6,337,063	1,082,272	.....	423,106	112,482	204,135	44,760	40,304	0,163	935,396
1879..	33,307	65,432	8,397,042	1,371,970	.....	62,483	96,877	159,017	34,274	17,596	14,867	1,344,975
1880..	65,220	9,818	9,818,535	1,523,658	.....	68,345	140,951	106,706	39,791	616,742	17,153	1,834,215
1881..	87,849	43,111	13,011,910	1,730,838	.....	20,733	160,970	263,642	38,810	395,266	19,533	2,661,198
1882..	58,648	44,352	12,020,669	1,871,584	.....	5,835	128,734	108,036	52,985	24,478	23,005	2,712,038
1883..	22,072	591,392	8,578,532	899,757	24	.....	211,714	119,681	.....	.....	.....	.....

* All other breadstuffs comprise barley, barley malt, bread and biscuit, oats, rice, rye, wheat, wheat flour, meal of all kinds, peas and beans; all other farinaceous food and preparations of breadstuffs.

† All other chemicals, drugs, dyes and medicines include: Argols; medicinal barks; camphor, crude; madder; soda, nitrate of; gums; cutch and catechu; opium; soda and salts of; sulphur or brimstone; chloride of lime or bleaching powder; all chemicals, not elsewhere specified.

‡ Cochineal only; no indigo included.

MEXICO, 1858-1883—Continued.
IMPORTS OF MERCHANDISE FROM MEXICO—Continued.

YEAR ENDED JUNE 30 —	LEAD, PIGS, BARS, AND OLD.	ANIMALS, LIVING.	PRECIOUS STONES.	SALT.	SPICES OF ALL KINDS.	SUGAR AND MOLASSES OF ALL KINDS.	WOOL, RAW AND FLEECE.	WOOD, UNMANU- FACTURED.	OTHER MERCHAN- DISE.	TOTAL IM- PORTS OF MERCHAN- DISE.
	POUNDS.						POUNDS.			
1858.....	\$895	.....	.....	\$6,285	\$1,252	\$9,569	.....	\$43,674	\$275,901	\$1,108,501
1859.....	36,517	.....	.....	11,321	1,272	8,273	.....	55,949	389,904	1,244,084
1860.....	31,440	.....	.....	22,555	642	55,399	.....	101,392	819,195	1,903,431
1861.....	320,441	.....	.....	12,420	1,835	23,353	.....	102,711	141,120	886,112
1862.....	57,462	.....	.....	16,38	1,551	10,886	.....	51,415	*289,510	817,809
1863.....	13,988	.....	.....	46,871	3,959	45,576	.....	69,014	†1,094,068	3,043,882
1864.....	295,136	.....	.....	5,247	22,973	12,019	1,226,820	82,342	†4,987,889	6,128,445
1865.....	297	.....	.....	6,452	10,836	816	45,490	83,691	85,188,666	6,220,874
1866.....	60	.....	.....	12,320	30,920	79,904	.....	82,968	1770,268	1,726,092
1867.....	1,599	.....	.....	19,041	.....	1,693	103,297	106,921	127,392	1,071,936
1868.....	.....	.....	.....	31,645	46,324	29,735	69,493	72,973	217,404	1,590,667
1869.....	2,799	.....	.....	13,746	33,841	95,197	716,068	126,345	225,821	2,336,104
1870.....	22,211	.....	.....	30,235	104,476	28,123	656,459	107,868	377,916	2,715,665
1871.....	44,667	.....	.....	29,600	124,403	39,877	805,909	176,724	968,208	3,209,688
1872.....	23,201	.....	.....	26,984	10,396	52,007	1,182,481	279,020	263,991	4,002,920
1873.....	44,053	\$188,558	\$32,449	1,013	.....	11,818	1,182,414	171,554	550,070	4,276,105
1874.....	147,512	147,512	102,048	6,903	2,100	17,682	1,173,999	324,520	379,557	4,346,364
1875.....	134,701	134,701	156,690	6,844	1,882	104,547	1,095,282	346,923	756,226	5,174,594
1876.....	81,439	81,439	63,399	8,201	1,520	104,597	838,798	247,833	735,763	5,190,572
1877.....	108,050	108,050	6,355	7,196	5,481	227,543	1,495,983	133,690	533,176	5,204,264
1878.....	129,897	129,897	1,540	6,768	1,050	135,700	835,487	257,853	580,051	5,251,502
1879.....	58,245	132,673	3,927	3,700	76,992	76,992	119,708	224,925	529,001	5,493,221
1880.....	20,639	173,395	5,416	8,419	9,040	232,655	1,331,874	468,754	889,136	7,209,593
1881.....	.....	314,272	21,057	7,176	5,219	124,535	1,099,376	329,295	974,452	8,317,802
1882.....	27,761	455,917	70,241	802	8,428	104,374	191,666	499,776	1,212,601	8,461,899
1883.....	26,919	661,245	56,176	973	10,775	64,527	1,775	441,083	1,244,542	8,177,123

* Of this amount \$60,497 was the value of unmanufactured cotton.

† Of this amount \$1,750,615 was the value of unmanufactured cotton.

‡ Of this amount \$4,859,725 was the value of unmanufactured cotton.

§ Of this amount \$5,128,875 was the value of unmanufactured cotton.

|| Of this amount \$47,197 was the value of unmanufactured cotton.

MEXICO, 1858-1883—Continued.
EXPORTS OF DOMESTIC MERCHANDISE TO MEXICO.

YEAR ENDED JUNE 30—	SHEEP.		BREAD AND BREADSTUFFS.			COTTON, RAW OR UNMANUFACTURED.
			Indian corn.		Wheat and wheat-flour.	
	NO.		BUSHEL.			
1858.....	.....	.....	49,579	\$37,676	\$139,673	9,084,609
1859.....	.....	.....	48,032	20,886	184,223	883,337
1860.....	.....	.....	80,329	78,063	247,266	5,993,635
1861.....	.....	.....	13,877	9,993	109,033	9,043,377
1862.....	.....	.....	18,364	14,017	282,810	1,410,659
1863.....	.....	.....	268,653	263,849	777,122	.....
1864.....	.....	.....	187,014	256,924	855,772	.....
1865.....	280	\$740	181,462	347,464	1,089,016	.....
1866.....	33	590	158,624	121,553	584,012	.....
1867.....	543	2,800	14,218	16,874	547,965	417,497
1868.....	3,156	2,253	7,292	9,051	343,205	331,199
1869.....	(7)	(7)	72,216	72,439	278,111	.....
1870.....	27,481	18,189	62,859	65,292	10,923	934,458
1871.....	36,347	32,137	173,585	169,350	225,718	1,349,685
1872.....	27,228	25,843	21,039	27,233	218,279	2,042,224
1873.....	57,217	59,935	104,146	99,166	110,525	458,405
1874.....	111,445	110,290	55,881	40,049	96,666	6,609,707
1875.....	112,553	133,222	9,862	9,092	102,173	11,309,498
1876.....	95,215	104,865	93,487	75,945	108,052	957,209
1877.....	161,549	144,908	64,776	55,658	21,532	550,639
1878.....	153,065	158,217	288,109	267,623	26,580	228,957
1879.....	89,689	103,789	126,613	95,802	171,450	1,305,276
1880.....	115,265	120,817	68,743	69,072	23,756	6,972,575
1881.....	108,886	118,498	352,510	240,182	129,971	3,969,812
1882.....	81,338	419,263	476,453	391,751	178,408	9,898,129
1883.....	235,585	364,866	.....	.....	.....	912,583
						1,176,067
						1,494,101
						13,386,186
						12,537,650
						91,475
						1,447,522
						2,217,259
						118,744

* Bread and breadstuffs, all other, comprise barley, bread and biscuit, Indian-corn meal, oats, rye, rye-flour, other small grain and pulse, maizena, farina, and all other breadstuffs, or preparations of, used as food.

+ Classified under the general heading "Animals, living, all kinds," total \$156,773.

EXPORTS OF DOMESTIC MERCHANDISE TO MEXICO—Continued.

YEAR ENDED JUNE 30—	COTTON, MANUFACTURES OF.			DRUGS, CHEMICALS, MEDICINES, ACIDS, ASHES, AND DYE-STUFFS.	GLASS, GLASS-WARE.	IRON AND STEEL, AND MANUFACTURES OF*	LEATHER, AND MANUFACTURES OF.	
	Colored.		Uncolored.				Boots and Shoes.	All other.
	YARDS.	YARDS.						
1858.....	.....	.....	.....	\$29,957	\$8,011	\$188,214	\$1,066	\$4,404
1859.....	.....	.....	.....	34,280	7,637	91,477	9,345	5,873
1860.....	.....	.....	.....	61,870	5,981	329,326	8,929	4,294
1861.....	.....	.....	.....	312,695	5,763	255,327	4,562	6,395
1862.....	.....	.....	.....	157,874	14,486	265,225	9,076	4,607
1863.....	.....	.....	.....	1,784,531	118,604	704,944	289,543	112,334
1864.....	.....	.....	.....	717,622	166,741	1,165,541	373,446	67,404
1865.....	.....	.....	.....	2,222,410	126,447	1,423,571	1,119,648	166,293
1866.....	.....	.....	3,748	58,663	23,515	420,634	32,131	35,114
1867.....	141,780	\$29,186	45,383	89,600	16,813	770,150	21,533	21,639
1868.....	39,472	31,828	407,619	85,137	27,010	784,897	61,227	23,874
1869.....	.....	.....	397,610	85,635	27,076	811,384	95,590	18,430
1870.....	.....	.....	341,593	73,572	21,217	654,298	116,761	11,591
1871.....	1,049,621	149,569	601,927	113,105	18,095	698,296	91,070	16,970
1872.....	187,151	104,254	1,451,727	96,248	26,419	803,668	98,565	18,486
1873.....	559,411	84,387	1,355,626	107,434	26,752	1,043,071	104,377	13,613
1874.....	500,156	66,185	1,55,857	123,009	20,097	1,073,530	70,417	12,577
1875.....	277,032	35,357	1,086,883	126,437	37,501	1,073,530	84,129	20,066
1876.....	569,155	62,724	1,019,997	104,668	37,501	1,073,530	70,417	20,066
1877.....	1,210,286	113,358	2,143,875	60,595	20,713	1,073,530	84,129	20,066
1878.....	6,255,486	513,488	5,876,817	481,513	20,713	1,073,530	84,129	20,066
1879.....	10,404,048	740,391	5,756,156	486,159	20,713	1,073,530	84,129	20,066
1880.....	7,663,001	593,358	5,786,718	668,717	20,713	1,073,530	84,129	20,066
1881.....	6,624,170	572,648	2,868,228	69,852	20,713	1,073,530	84,129	20,066
1882.....	6,874,312	572,195	3,657,611	224,185	20,713	1,073,530	84,129	20,066
1883.....	6,743,817	504,612	3,838,669	312,824	20,713	1,073,530	84,129	20,066
	6,114,341	441,252	3,523,873	292,009	20,713	1,073,530	84,129	20,066

* Including, also, printing presses and type, scales and balances, sewing machines and parts of, steam and other fire engines and apparatus.

† Included in "All other."

EXPORTS OF DOMESTIC MERCHANDISE TO MEXICO—Continued.

YEAR ENDED JUNE 30—	ORDNANCE STORES.			PROVISIONS.*		QUICKSILVER.	SUGAR AND MO- LASSES.	TOBACCO & MANU- FACTURES OF.	WOOD AND MANU- FACTURES OF.	OTHER MERCHAN- DISE.	TOTAL EXPORTS OF DOMESTIC MER- CHANDISE.	TOTAL EXPORTS OF FOREIGN MER- CHANDISE.	TOTAL EXPORTS OF MERCHANDISE.
	Cartridges and Fuses.	Gunpowder.	All other.	Lard.									
				Bacon and Hams.	All other.*								
REFINED ILLUMI- NATING MINERAL OIL.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
1858.....
1859.....
1860.....
1861.....
1862.....
1863.....
1864.....
1865.....
1866.....
1867.....
1868.....
1869.....
1870.....
1871.....
1872.....
1873.....
1874.....
1875.....
1876.....
1877.....
1878.....
1879.....
1880.....
1881.....
1882.....
1883.....

* Provisions, all other, comprise: Beef, salted or cured; beef, fresh; butter, cheese, condensed milk; eggs; fish, dried, smoked, fresh, pickled, other cured; meats, preserved mutton, fresh; oysters; pickles and sauces; pork; onions; potatoes; other vegetables; vegetables, prepared or preserved.

IMPORTS INTO, AND EXPORTS FROM, THE UNITED STATES FROM AND TO MEXICO, ETC.—Continued.

MEXICO, 1889-1896—Continued.

Mexico.

YEAR ENDING JUNE 30—	IMPORTS OF MERCHANDISE.									
	Animals.	Precious stones.	Salt.	Spices of all kinds.	Sugar and molasses.	Wool, unmanufactured.		Wood, un- manu- factured.	Other mer- chandise.	Total imports of merchan- dise.
						POUNDS.				
1889.....	\$399,493	\$11,956	\$2,302	\$9,278	\$7,022	761,828	\$67,711	\$301,142	\$7,757,003	\$21,253,601
1890.....	417,025	57,614	3,546	16,413	27,129	322,166	30,614	441,620	8,579,184	22,690,915
1891.....	140,642	3,025	4,659	11,507	35,460	1,709	158	470,564	9,764,647	27,295,994
1892.....	20,257	911	2,369	12,575	40,790	263	41	699,033	10,731,702	28,107,525
1893.....	36,391	1,164	11,933	19,891	48,157	92,709	10,727	631,238	12,743,844	33,555,099
1894.....	24,415	3,672	387	19,595	69,618	5,708	632	360,490	7,791,600	28,727,006
1895.....	766,000	10,121	440	166	55,156	74,574	3,928	230,499	1,043,700	15,635,788
1896.....	1,520,044	3,840	2	14,066	63,622	95,834	3,964	595,523	1,378,193	17,456,177

Mexico.

IMPORTS INTO, AND EXPORTS FROM, THE UNITED STATES FROM AND TO MEXICO, ETC.—Continued.
MEXICO, 1889-1896—Continued.

YEAR ENDING JUNE 30—	EXPORTS OF DOMESTIC MERCHANDISE.						
	ANIMALS.		BREADSTUFFS.		Chemicals, drugs, dyes and medicines.	Cotton, unmanufactured.	
	Sheep.	Corn.	Wheat and wheat flour.	All other.			
					NUMBER.	BUSHELS.	POUNDS.
1889.....	77,569	\$122,193	\$194,778	\$85,746	\$329,487	16,901,267	\$1,607,305
1890.....	26,814	47,947	481,052	166,769	362,328	13,047,474	1,217,895
1891.....	9,147	21,404	389,610	213,299	377,586	12,841,122	1,281,972
1892.....	2,827	5,668	489,702	184,299	427,443	22,117,381	1,544,500
1893.....	1,310	4,682	4,343,777	239,576	144,031	20,905,986	1,890,461
1894.....	5,443	9,685	431,516	220,362	100,568	17,582,418	1,391,836
1895.....	909	3,338	179,611	175,637	80,649	37,976,422	2,352,299
1896.....	2,182	9,693	1,676,758	167,686	85,542	19,468,420	1,643,183

IMPORTS INTO, AND EXPORTS FROM, THE UNITED STATES FROM AND TO MEXICO, ETC.—Continued.

YEAR ENDING JUNE 30--		EXPORTS OF DOMESTIC MERCHANDISE.						LEATHER, AND MANU- FACTURES OF.	
COTTON, MANUFACTURES OF.		Glass and Glass- ware.	GUNPOWDER AND OTHER EXPLOSIVES.		Iron and steel, and manufac- tures of.	Boots and Shoes.	All other.		
Cloths, colored.	Cloths, uncolored.		Gun- powder.	All other explo- sives.					
YARDS.	YARDS.								
7773,000	\$461,765	\$138,004	\$218,493	\$76,833	\$10,227	\$283,704	\$30,981	\$48,648	
5438,800	1845,659	153,975	176,402	94,067	15,763	348,845	36,959	54,794	
5438,800	2048,139	144,753	158,563	120,068	18,763	375,320	24,366	42,231	
6387,725	1769,737	86,592	155,382	130,560	28,589	339,025	3,434,343	38,702	
5438,800	1937,469	86,592	155,382	130,560	28,589	339,025	26,731	48,308	
3841,295	1368,664	111,453	149,353	117,979	6,767	440,775	3,168,597	58,245	
3841,295	1368,664	111,453	149,353	117,979	6,767	440,775	24,643	51,048	
2159,230	244,174	145,130	151,944	124,468	43,088	572,031	3,793,566	20,532	
2159,230	244,174	145,130	151,944	124,468	43,088	572,031	3,793,566	20,532	
5541,802	311,533	184,933	324,779	104,628	74,805	597,766	57,539,315	60,943	

CIRCULATION.

We have been very fortunate in not having any paper circulation in Mexico. Notwithstanding the great need of money that the Mexican Government has had on different occasions, it has never thought of an issue of paper money, since the deplorable results of the one made in 1823, which discredited paper money so greatly that no Government in Mexico ever dared to again issue any, and we have been free from all the difficulties which depreciated paper money circulation has caused in most of the other American Republics.

There are a few banks of issue in Mexico which are authorized to issue paper, but this is not a legal tender, and their issue is covered by deposits of large amounts of money. I take the following statement, made after consultation with the leading banking houses of the country, which shows the amount they held in cash and the uncovered paper issued by the same on June 30, 1896:

	CASH.	UNCOVERED PAPER.
National Bank.....	\$28,593,450.71	None.
Bank of London and Mexico.....	7,093,431.55	\$2,403,044.45
International and Mortgage Bank.....	1,295,730.36	None.
Monte de Piedad.....	316,855.71	None.
Bank of Nuevo Leon.....	460,244.01	462,231.99
Chihuahua Mining Bank.....	560,137.12	528,063.88
Bank of Yucatan.....	672,821.75	356,684.25
Bank of Zacatecas.....	491,848.27	....
Mercantile Bank of Yucatan.....	983,091.97	....
Bank of Durango.....	344,468.95	77,989.05
Commercial Bank of Chihuahua (July 15, 1896)....	92,188.22	74,254.18
	\$40,904,268.62	\$3,902,267.80

The above table includes only uncovered notes. The note circulation of the National Bank of Mexico on the dates mentioned was, for example, \$21,250,154, but neither that nor the covered circulation of the other banks is mentioned, only that amount of paper being considered which has been absorbed by the commercial community in excess of the equivalent in silver held by the issuing institution.

The amount of money in circulation has been calculated at the following figures, and I think it may be safely stated that at least twice that amount in silver dollars is now in circulation in Mexico:

Cash held by the banks.....	\$41,000,000
Cash in private hands.....	60,000,000
Uncovered note circulation, say.....	4,000,000
Total	\$105,000,000

Distributed among a population of 12,578,861, this amount gives \$8.34 per capita, but if the Indians be excluded from the population, not being as yet appreciable factors in the great equation of civilization and progress, and the above amount be divided among the remaining, say 6,000,000 active agents in the country's advancement, the per capita circulation figures out at \$17.50, a sum which will bear comparison with that of countries figuring in the front rank of civilization.

BANKING.

Banking in Mexico is in its incipient state. The National Bank of Mexico, established in the City of Mexico since 1882, with branches in the principal cities of the country, has a monopoly for the issuing of notes in the capital, which is only shared by such banks as were in existence before the National Bank of Mexico was chartered, like the Bank of London, Mexico and South America, established during the French intervention in Mexico and recently remodeled under the name of the Bank of London and Mexico. The Mortgage Bank of Mexico enjoys that privilege also.

On June 3d, 1896, a general banking law was issued by the Mexican Congress which establishes the conditions under which banking institutions can be organized, but, of course, that does not affect the rights of the National Bank and other banks in the City of Mexico.

Formerly, owing to the expense and dangers of transportation, it was difficult to transport money from one place to another, and therefore exchange between cities in Mexico was very high, sometimes even ten per cent. from one city to another in the country. The rate has been reduced considerably since the railroads were built, but it is still quite high. To draw money from the City of Mexico to the City of Oaxaca, for instance, and *vice versa*, costs now one per cent. each way, and when money is required to be sent to smaller places, the expenses are much higher, as it is necessary to send a man to the nearest town where the money can be placed by the banks, and pay to him a large commission—the expenses sometimes reaching from five to ten per cent. To keep up this rate of exchange the National Bank makes its bills payable at a certain place so that they cannot be paid at any other.

Banking is very profitable in Mexico. The following is a statement of the earnings and dividends of the National Bank of Mexico, with a capital of \$3,000,000, which is owned almost exclusively by Mexicans, and is the fiscal agent of the government:

	NET PROFITS.	DIVIDENDS, PER CENT.
1891.....	\$1,813,623	23
1892.....	1,839,418	23
1893.....	2,355,464	29
1894.....	1,961,801	24
1895.....	2,200,626	27

The following is a statement from official sources of the earnings and dividends of the Bank of London and Mexico. Up to 1891 it had a capital of \$1,500,000, which was then increased to \$3,000,000.

	NET PROFITS.	DIVIDENDS EARNED, PER CENT.	DIVIDENDS DECLARED, PER CENT.
1889.....	\$243,246	16	10
1890.....	569,351	36	20
1891.....	703,522	46	20
1892.....	789,967	26	16
1893.....	618,653	20½	16
1894.....	603,178	20	14
1895.....	557,710	18½	14

A few weeks ago it was decided to increase the stock of this bank. The surplus, which amounted to \$2,000,000, in round numbers, was divided into stock and issued to the regular shareholders as a stock dividend. Then \$5,000,000 of stock was offered to the public. The subscriptions amounted to \$22,000,000 or \$17,000,000 more than was wanted.

From this short statement it will be seen what a great future banking enterprises have in Mexico.

PUBLIC DEBT.

Our debt is divided into several categories—one contracted in Europe and payable, both principal and interest, in gold; and the debt contracted at home, including the railway subsidies, which foot a considerable amount, its principal and interest being payable in silver. The following is a statement of both the gold and silver debt of Mexico:

The foreign debt payable in gold had four issues, as follows:

1. Issued in 1888.—Bonds for \$52,500,000, principal and interest at 6 per cent., to fund the old debt contracted in 1826.

2. Issued in 1890.—Bonds for \$30,000,000, principal and interest at 6 per cent., to pay railway subsidies.

3. Issued in 1893.—Bonds for \$15,000,000, principal and interest at 5 per cent., to build the Tehuantepec railway.

4. Issue in 1894 was for \$13,500,000, principal and interest at 5 per cent., payable in gold.

The four issues of the foreign debt of Mexico amounted to \$111,000,000, but having paid a portion of it, the debt was reduced on June 30th, 1896, to.....\$109,087,500.00

The interior or silver debt has the following issues:

Three per cent. bonds of consolidated debt in circulation June 30, 1894.....	34,214,750.00
Bonds for subventions to railroads and harbors....	37,596,585.22
Credits liquidated against the Treasury and certificates of amounts due; that is, debts secured by special Government revenue, taxes, imports and other certificates of amounts due.....	13,373,966.80
Due Banco Hypothecario, guaranteed by the mortgage on Government buildings.....	998,930.61
Advances from lessees of mints, bearing no interest.	706,282.30
Accounts current and Treasury warrants.....	7,175,012.91
	<hr/> \$203,153,027.84

I understand that the last four items have been funded in bonds, so that the whole debt of the Mexican Government is now the one held in Europe for \$109,087,500, and the silver, or the interior debt, the exact amount of which I do not know.

CONCLUSION.

I am sorry to say that I had not the time and the necessary data at my disposal to write a more complete and interesting paper on Mexico, but I hope that the present article may at least give a general and superficial idea of the country and promote a desire to read other papers and books treating the subject in an abler and more complete manner.

M. ROMERO.

WASHINGTON, DECEMBER 1ST, 1896.